

The
**MINING
CONGRESS
JOURNAL**



The Lincoln Memorial, Washington, D. C.

FEBRUARY
1935

The MINING CONGRESS JOURNAL

To Our Subscribers—

As a regular subscriber to the Mining Congress Journal you can appreciate what this publication means to you in disseminating valuable information. Proof positive of our claim can be found in a short summary of contents for the March issue. In addition to its regular material, this number will present composite data, statistics and information upon the following:

1. Number of mines, oil well, gravel pits, sulphur wells and miscellaneous mineral enterprises.
2. Number of men employed by these enterprises with amount of wages paid in any normal year of operation.
3. Total amount of State and National tax paid.
4. Communities wholly and in part dependent upon these enterprises; number of people involved, etc.
5. Number of industries dependent upon mineral products; wage earners therein and wages paid.
6. Equipment and supplies purchased in producing these minerals.
7. Amount of freight furnished by them to Class I railroads.
8. A complete presentation of the economic importance of minerals to our industrial prosperity and the necessity for the fostering of these industries rather than their penalization.

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The MINING CONGRESS JOURNAL

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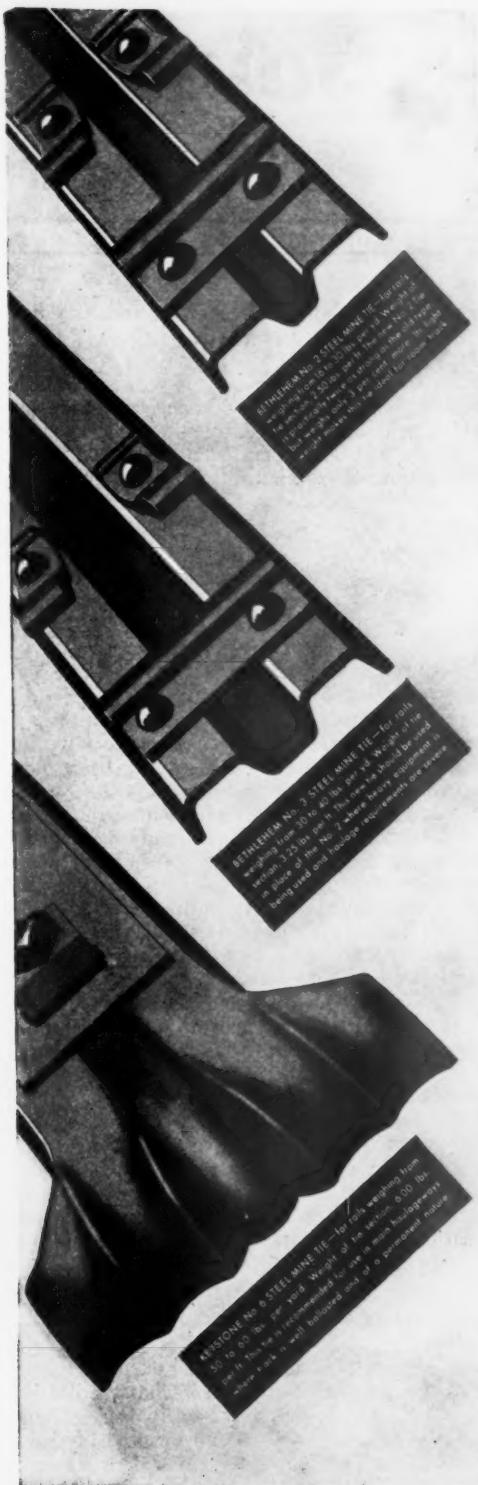
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BETHLEHEM *Steel* MINE TIES

The MINING CONGRESS JOURNAL

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FEBRUARY
1935

A Journal for the entire mining industry published by The American Mining Congress

Uncle Sam's Debt

APPROBABLY the American sense of perception or comprehension is numbered by the stupendous magnitude of the sums of money bandied daily in the press as "expenditures" of the government. Few grasp the significance of such indifferent figures as a million dollars; fewer still can understand an expenditure of billions . . . particularly when the individual and company pocketbook is so lean that its sides are stuck together and when a five-dollar bill looks like a small fortune.

Is it any wonder then that the public has been lulled into stupification by the announcement of vast expenditures by Congress and fails to comprehend completely such startling figures as "The United States now owes 28½ billions." By the first of July, 1936, each individual (man, woman and child) in this country will owe \$270 for the Dear-Old-Uncle's debts.

Like the little boy who brought home a bad report card from school, excusing his performance by saying there were worse scholars in his class, the government is pointing to Great Britain as a worse example. England has a per capita debt of about \$973; France, \$470, and Germany a mere \$94. Comparisons, like many other things, may turn out boomerangs.

This country entered the depression with a debt of a little over 16 billions. That record was viewed with alarm, but it has gradually increased, and the alarm has decreased proportionately, until today official Washington states that it does not believe that a debt of 50 billions would represent an excessive debt for the United States.

When we reduce a national debt down to our own individual liability, or contemplate what its payment will mean to our children, only then do we comprehend the staggering proportions of our present course.

Twelve Years of Suc- cessful Performance

HERE is a reason for the continued popularity of the annual conventions and expositions of The American Mining Congress, which have been held each May for twelve consecutive years. Each year the convention and exposition have been greater events. Such success implies performance of a high caliber in service to both the industry and the manufacturer.

Literally thousands of men whose responsibility it is to produce the Nation's coal safely, economically, and efficiently, attend these meetings. They give weeks of their time in the development of a program; they travel many miles and seriously and earnestly discuss their problems.

Today, as well as yesterday, the industry is seeking greater operating performance. Operators know they can find it by cooperation with their fellow-operators, and with the manufacturers who are leading the way with inventive genius. The convention and exposition is

a Ways and Means Committee, and the industry has embraced the opportunity it presents.

The May meeting of the Coal Division of The American Mining Congress, scheduled this year at Music Hall, Cincinnati, Ohio, May 13-17, is a meeting with a purpose, which will be attended by men with a purpose. The net result will be accomplishment.

The Open-Door-of-Opportunity: May 13-17, 1935.

Those 30- Hour Bills

AGITATION for a law making 30 hours the maximum work-week continues with unabated fervor. Those advocating its adoption base their argument upon the premise that it will spread employment and thereby diminish the alarming proportion of our present great army of the unemployed. It must at once be admitted that their intentions are good, and that their purpose is laudable.

Those opposing this idea—and they may be catalogued as industry-leaders as a whole—do so upon the premise that it will not solve the unemployment problem; will add an unreasonable burden to already heavily overtaxed industry; and will in many cases force business to shut up shop and throw more men out of employment. Admittedly such legislative attempts make good campaign horses for future candidates to ride—but who stands responsible, who will pay if the horses stampede? Such a stampede may witness the enactment of one of these heedless bills into law—the freezing of the hours of work per week in a wholly arbitrary manner upon all industry, yes, and probably even upon farm labor. A partisan poll taken by the principal proponents of the bills claims better than 60 percent of both houses of the National Congress for the measure. "More leisure"—"Speed the work"—very attractive expressions to those wavering in favor, apathetic or uninformed. The real issue is—Do we want more leisure or do we want more goods, more food, better housing, clothing, transportation, education and entertainment? In all common sense and reason we know we cannot have both.

Supreme Court and the New Deal

THE SUPREME COURT of the United States has rendered its first verdict on the New Deal. That verdict is not entirely unfavorable, but it does require that the objectives sought by the New Deal shall be achieved in a constitutional manner. That constitutionality centered not so much around the prohibiting of the transportation from state to state of "hot oil," as against the fact that Congress delegated the task to another branch of the government without specifying the guiding principle under which such delegated authority should be exercised. The principle thus clarified by the Court is more far-reaching and important than the matter of the transportation of oil produced in excess of the quota set in each state.

SOCIAL LEGISLATION

In The Making. . . .

THE steadily growing trend toward legislation primarily for the benefit of labor, including Unemployment Insurance, Old Age Pensions, and the 30-Hour Working Week, has finally come to a head in the message of the President of the United States to Congress on January 17, when he made definite recommendations for legislation. Mr. Roosevelt makes the following recommendations, which include a 4-point program involving a Federal expenditure of \$98,400,000 for the first year and \$217,500,000 each following year:

1. Unemployment insurance plan, granting maximum compensation of \$15 a week. Plan to be state-sponsored. A uniform payroll tax would be assessed at 1 percent January 1, 1936, and increased to 3 percent in two years. The plan provides for a 90 percent credit allowed employers contributing under compulsory state plans, with 10 percent allocated for State and Federal administration.

2. A 3-phase Old Age Pension plan to provide a pension of \$30 a month to any person over 65 years of age. The plan includes "non-contributory," "compulsory" and "voluntary" phases. Compulsory phase would be financed by payroll tax graduated from 1 percent in 1937 to 5 percent in 1957, born jointly on equal basis by employer and worker. Voluntary phase contemplates supplemental annuities up to \$50 a month.

3. Federal subsidies to states for the aid of mothers and dependent children contemplate \$25,000,000 annual fund, the Federal government to appropriate \$4,000,000 annually for maternal and child health grants, \$1,500,000 for crippled child care, and \$1,500,000 for child welfare.

4. Supplemental Federal aid to states and local health agencies would amount to \$10,000,000 annually, \$2,000,000 to go for the Bureau of Public Health Research, and the remaining \$8,000,000 to be allotted states on the basis of needs.

The plan as proposed by the President would cover workers drawing less than \$250 a month. Under the unemployment insurance plan workers are assured they may receive benefits even though their idleness is due to their participating in a strike. Compensation would begin four weeks after an employe lost his job, and would continue for a maximum of

CHRONOLOGICAL HISTORY OF UNEMPLOYMENT INSURANCE GROWTH SINCE PRESIDENT ROOSEVELT'S ELECTION:

November, 1932: Governor Roosevelt elected President on national platform pledging "unemployment insurance under state laws."

March 20, 1933: Senator Wagner introduced Federal bill to encourage state unemployment insurance legislation by allowing employers to deduct from income tax a percentage of their contributions to unemployment reserves.

March 31, 1933: At Conference of labor leaders in Washington called by Secretary of Labor Perkins at President Roosevelt's request, Secretary Perkins outlined a program of legislation including unemployment insurance.

September, 1933: Secretary Perkins in a published article stated that if Senator Wagner's District of Columbia unemployment reserve bill (American Plan) was enacted, she would "welcome the task of setting up the organization for its administration."

October, 1933: Secretary Perkins held a conference at Washington, with Sir William Beveridge and Sir Arthur Steele-Maitland as principal speakers, to discuss aspects of unemployment insurance legislation.

February 5, 1934: Senator Wagner and Representative Lewis introduced the Wagner-Lewis bill, drafted with close cooperation of Secretary Perkins, levying a tax of 5 percent on the payrolls of industry against which a credit would be allowed for contributions made to unemployment insurance or reserve funds established pursuant to state laws.

February 15, 1934: Conference on labor legislation called by Secretary Perkins and attended by representatives of 44 state governors, unanimously urged enactment of Wagner-Lewis bill.

March 23, 1934: President Roosevelt, in a letter on the Wagner-Lewis bill sent to Chairman Doughton of the House Ways and Means Committee, said: "I hope that the bill will be passed by the Congress at this session."

April 25, 1934: Following the letter from the President and an appeal by Representative Lewis of the Labor Committee urging prompt enactment, the subcommittee of the Ways and Means Committee considering the Wagner-Lewis bill, reported the measure to the full committee without recommendation.

16 weeks. It is proposed that such employe could receive work relief under the public works program when insurance benefits cease.

The old age pension plan definitely enters the field of private insurance companies. It permits the government to sell annuities to persons either not eligible under the compulsory plan or who wished to increase their annuity. Maturity value of any such policy is limited to \$9,000. The Federal Relief Administrator would handle Federal subsidies for old age pensions and dependent child care. The Secretary of Labor would look after subsidies for maternal and child welfare. The Secretary of the Treasury would manage and invest all deposits for unemployment insurance and old age pensions. A Social Insurance Board would study the situation, which is termed an "experiment" and report to the Labor Secretary.

The questions involved are unemployment insurance, and old age pensions. These proposals have been advocated by the American Federation of Labor, in principle at least, and have the sympathy of a very large percentage of our Congressmen and Senators, plus the backing of the President. The Administration apparently is not in favor of the adoption of the 30-hour week at this time, and industry is definitely against the proposal.

All of these matters are an outgrowth of agitation of the idea by labor organizations and the fact that millions of men are still unemployed after huge governmental expenditures and unceasing political effort to legislate us out of the depression.

COMMITTEE ON ECONOMIC SECURITY

Chief in advocacy of these plans is the President's Committee on Economic Security, which was created by executive order, June 29, 1934, following a message to Congress on recommendations for dealing with the problems of economic security. The purpose of this committee was to survey the field of government and economics with the purpose in view of recasting the New Deal program along social and economic lines. Its principal purpose has been the study of various types of social insurance, such as unemployment, old age, public works programs, widowhood and maternity in-

An Analysis of Certain Plans*

| <i>Subject</i> | <i>Wisconsin Law</i> | <i>Interstate Commission</i> | <i>A. A. L. L.</i> | <i>A. F. of L.</i> | <i>Ohio</i> | <i>Socialist</i> |
|--------------------------------------|--|--|--|---|---|---|
| Coverage. | Employers of 10 or more persons; employees receiving \$1,500 or less. | Employers of 6 or more persons; employees receiving less than \$200 monthly. | Employers of 6 or more workers. | Same as workmen's compensation. | Employers of 3 or more persons; limit of \$2,000 yearly. | All employers limit of \$3,000 yearly. |
| Exclusions. | Farm laborers, domestic servants, public officers, school teachers, interstate railroad employees. | Farm laborers. | Farm laborers; non-manual workers receiving \$1,500 or more per year. | Same as above. | Public corporations; farmers, interstate commerce employees, farm laborers, domestics, public agencies. | |
| Contributions. | By employers only. | Employers only. | Employers only. | Employers only. | By employers and workers. | 50% by state and 50% by employers. |
| Rate of contributions. | 2% for first two years; thereafter 1% when reserve per employee is \$55-\$75; nothing when reserve per employee is \$75 or more. | 2% of payroll; 1% for average employee reserve of \$50-\$75, and no payment when reserve per employee is \$75 or over. | 1½% of payroll. | 3% of payroll. | 2% of payroll by employers and 1% by workers. | Sufficient to pay benefits. |
| Eligibility for Receipts. | No payment for unemployment due to misconduct, voluntary quits, trade disputes, or refusal to accept "suitable employment." | | Employment in state 26 weeks in two preceding years; unable to obtain "suitable employment." | Practically no restrictions as long as unable to secure employment for which "reasonably fitted." | Contributions for 26 weeks in year or 40 weeks in 2 years "suitable employment" provision. | "Suitable employment" provision. |
| Nature of Fund. | Separate fund for each employer. | Separate fund for each company. | Separate fund for each industry. | One fund for all companies in state. | Same as A. F. of L. | Same as A. F. of L. |
| Exemption from contributions. | Companies guaranteeing 42 weeks work in yr. or having a plan approved by the commission. | | Employers showing financial ability to pay benefits or having plan giving at least equal benefits. | | Self-insurance might be permitted after 2 or 3 years. | |
| Waiting Period. | 2 weeks. | Not specified. | 2 weeks. | Not specified. | 3 weeks. | 1 week. |
| Benefits. | \$10 per week or 50% of average weekly wage, whichever is lower; benefits may be reduced in amount or duration if employer's fund is unable to meet full payments. | Substantially same as Wisconsin. | \$10 or 60%, whichever is lower; benefits may be reduced according to the status of the industry fund. | As much as fund status permits. | 50% of wages, not to exceed \$15 weekly | 50% plus allowance for dependents; limit \$25 weekly. |
| Maximum duration of benefits. | 10 weeks in year. | 10 weeks in year. | 13 weeks in year. | As long as fund status permits. | 16 weeks in year. | |
| Administration. | By state industrial commission. | State industrial commission or special state unemployment commission. | Department of Labor. | State unemployment commission. | State unemployment commission. | State Unemployment Insurance Board. |

* As compiled by the National Manufacturers Association.

surance, disability insurance, insurance for the farmer, the self-employed, vocational guidance, transfer of groups from abandoned or dying industries or areas, tide-over loans, cyclical unemployment, seasonal unemployment, area unemployment, technological unemployment and other phases.

This committee recently made its recommendations to the President, and it is presumed that his recommendations to Congress are based thereon. The personnel of the committee included Secretary of Labor Perkins as chairman; H. L. Hopkins, FERA Administrator; Henry Morgenthau, Jr., Secretary of the Treasury; Henry A. Wallace, Secretary of Agriculture; Homer S. Cummings, the Attorney General. Members of the committee, covering both technical and advisory, are Winfield Riefler, Jacob Viner, Howard Myers, Corrington Gill, Aubrey Williams, A. J. Altmeyer, Dr. Isadore Lubin, Otto S. Beyer, Joseph B. Eastman, Murray Latimer, H. R. Tolley, M. Valgren, Alexander Hertzoff. Edwin E. Witte is executive director of the entire program.

To date, January 26, 1935, 35 bills have been introduced providing for some form of unemployment insurance. It is safe to say that most of them will never get beyond the committee stage and that the administration's bill, introduced by Senator Wagner in the Senate and Congressman Lewis in the House, will occupy the limelight.

This bill is known as S. 1130—Wagner-Lewis Social Security Bill—(identical to H. R. 4142) and follows the recommendations of the President's Committee on Economic Security and treats of, 1. Old-Age Pensions; 2. Unemployment Insurance; 3. Aid to Dependent Children; 4. Maternal and Child Health.

1. *Old-Age Pensions.* This legislation is in three parts—

(1) A national system of compulsory contributory old-age insurance.

(2) Federal subsidies to the States to help the aged who cannot be brought under the insurance system.

(3) A voluntary system of old-age annuities.

(1) The national system of compulsory contributory old-age insurance establishes "Old-Age Fund" by a 1% payroll tax as of January 1, 1937, increasing each 5 years by 1% until as of January 1, 1957, it is 5%; ½ of tax by employers and ½ checked off from wages of employees. Minimum age 65 years. Pensions to equal 15% of average monthly wage of each employee who has been paying for 200 weeks and 1% additional for each 40 weeks over 200 and 2% additional for each 40 weeks over 400 weeks.

(2) Federal subsidies to the States for Old-Age Pensions. \$50,000,000 is appropriated for fiscal year 1936 and \$125,000,000 annually thereafter. Yearly allotments are made to each State in amount equal to what the State spends under plan approved by Federal administrator, with limit that

June 8, 1934: President Roosevelt in his message to Congress declared: "Next winter we may well undertake the great task of furthering the security of the citizen and his family through social insurance." He stated that unemployment insurance would be included with national handling of funds but with state administration.

June 29, 1934: The Committee on Economic Security was created by the President in an executive order in which he charged the Committee with the task of studying "problems relating to the economic insecurity of individuals" and to report to him "its recommendations concerning proposals which in its judgment will promote greater economic security."

November 10, 1934: President Roosevelt appointed an Advisory Council composed of representatives of industry, labor, and the public to advise the Committee on Economic Security in formulating its recommendations for social insurance.

November 14, 1934: Effective methods of solving the problem of economic security were discussed at a National Conference on Economic Security called by the Committee on Economic Security. In a White House address to the delegates to the conference, President Roosevelt again declared that legislation on unemployment insurance would be before the coming Congress. He stated definitely that unemployment insurance would have to be developed along a cooperative federal-state plan and urged the delegates to press for enactment of state legislation.

December 21, 1934: President's Committee on Economic Security made its report to the President, recommending legislation for Unemployment Insurance; Old Age Pensions, and other kindred proposals.

January 17, 1935: President Roosevelt presents special message to the 74th Congress advocating immediate enactment of legislation providing for Unemployment Insurance and Old Age Pensions, to be financed through a tax upon the national payroll.

Senator Robert Wagner, Democrat, New York, and Congressman David J. Lewis, Democrat, Maryland, introduced bill providing for President's recommendations.

January 22, 1935: Hearings upon the Wagner-Lewis bill start.

■ ■ ■ ■

Federal and State pension shall not total more than \$30.00 per month per individual.

(3) *Voluntary system of Old-Age Annuities.* Provides issuance to citizens under 65 years of age of annuity certificates with maturity value limit of \$9,000.

2. *Unemployment Insurance.* Plan is to develop enactment of compulsory State unemployment insurance laws through employment of the Federal taxing power and through subsidies to the states. Provides 1% tax on payrolls until index of industrial production is above 84% of the 1923-1925 level; then 2% of payrolls until 95% of such level; commencing January 1, 1937, 3% of payrolls. Employer is credited up to 90% of his contribution to an unemployment insurance fund under individual State law. No employer is to receive such credit unless

the unemployment insurance law of his State meets certain provisions of the Federal Act, among which is "that no worker shall be disqualified from receiving benefits because he participates in a strike or because he refuses to take work at standards below those prevailing in the locality, or because he refuses to join a company union or insists upon joining the labor union of his own choosing." All funds collected under State unemployment insurance laws must be deposited in the Unemployment Trust Fund in the Treasury of the United States. Appropriations of \$5,000,000 for fiscal year 1936 and \$50,000,000 annually thereafter, to encourage the administration of State unemployment insurance laws.

3. *Aid to Dependent Children.* Appropriation of \$25,000,000 for fiscal year 1936 and annually thereafter, to be allotted among the states on an equal matching basis whenever State plans meet approval of the Federal emergency relief administrator.

4. *Federal Subsidies for Maternal and Child Health.* Appropriates \$4,000,000 for fiscal year 1936 and annually thereafter, to be apportioned among states mainly on a dollar-for-dollar basis for maternal and child health, care of crippled children and aid to child welfare service. For the public health also \$10,000,000 per year, of which \$2,000,000 for investigation and research by the Bureau of Public Health Service and the remainder allotted among the states by the bureau upon the basis of need.

5. *Administration.* A social insurance board of three members in the Department of Labor with the following duties:

(1) To study and recommend social security practices and laws.

(2) To make recommendations to the Secretary of Labor regarding the credits of employers under the unemployment insurance law.

(3) To supervise and direct the payment of annuities under the compulsory insurance plan.

(4) To issue old-age annuities under the voluntary pension system.

(5) To assist the states in the administration of unemployment insurance laws.

The Federal emergency relief administrator is charged with the administration of the Federal subsidies to the states for old-age pensions and for the care of dependent children. The Secretary of Labor is charged with the administration of the Federal subsidies to the states for maternal and child health, care of crippled children, and the promotion of child welfare service. The Bureau of Public Health Service of the Treasury Department is charged with the administration of the Federal subsidies to the states for the public health. The Secretary of the Treasury is charged with the management and investment of the funds deposited in the Treasury under the unemployment

insurance law and the compulsory old-age insurance system.

Other bills introduced provide for:

... An amendment to the Constitution of the United States empowering Congress to provide for the payment of pensions to superannuated citizens, out of current taxes to be levied and collected for that express purpose.

... States to make compacts or agreements to promote greater uniformity of laws affecting the relations of employers and employees, no agreement to be binding upon any state unless it has been approved by the legislatures of each of the states.

... Immediate establishment of a system of unemployment and social insurance for all workers unemployed. Funds provided by the government and by employers. Further authorizes payments because of part time work, sickness, accident, old age or maternity.

... Establish in the Department of Labor the "Old Age Securities Bureau" empowered to carry out the administration of old age and disability benefits, through the State governments, revenue therefor to be developed by excess profits, inheritance and gift levies, an increase of 10 percent on the net incomes of individuals, a tax of 1 percent on all salaries in excess of \$3,000, and a tax of 1 percent on sales of securities in national securities exchanges.

... Establish unemployment insurance to provide compensation for all workers and farmers above 18 years of age unemployed, compensation equal to average local wages but in no case less than \$10.00 per week, plus \$3.00 for each dependent.

... A Federal Industrial Commission to aid in the stabilization of employment in industry, agriculture and commerce. To make a report to Congress at least once each year including recommendations for legislation as deemed necessary.

... Immediate establishment of a system of unemployment and social insurance for all workers and farmers unemployed through no fault of their own. "No worker shall be disqualified from the benefits of the act because of refusal to work in place of strikers, at less than normal or trade union rates, unsafe or insanitary conditions, or where hours are longer than the prevailing union standards at the particular trades and locality or at any unreasonable distance from home.

... Corporation with board of five direct effect system of unemployment insurance, with tax of 4 percentum of wages and salaries to provide revenue, one-half from employer and one-half from employee.

... \$30 per month after 60 years of age. Revenue from levy of $\frac{1}{4}$ of 1 percentum on salaries, earnings, incomes of all persons between the ages of 21 and 45 years.

... Establishment of an "Old Age Security Bureau" in the Department of Labor. To cooperate with state authorities in the administration of old age assistance. To recommend to the Treas-

SALIENT FACTS CONCERNING PROPOSED LEGISLATION

Provides subsidy not to exceed \$30 monthly to persons over 65.

Establishes vast Federal-State cooperative plan.

Provides subsidy of \$15 a week for unemployment insurance.

Limits benefits of plan to 16 weeks, but provides for Public Works Relief work when benefits expire.

Extends privileges to striking workers.

Estimated cost, first year, \$98,400,000; \$217,500,000 annually thereafter.

Fund to be raised by payroll tax of 1% beginning January 1936, increasing to 3% in two years unless business picks up. Ninety percent credit allowed employers contributing under compulsory State plan; 10% used for State and Federal administration.

Treasury Secretary would manage and invest all deposits for unemployment insurance and old age pensions.

Liberals in Congress assail proposal as too weak, and advocate modified Townsend plan which proposes \$200 a month pension to persons over 60, with compulsory spending provision.

Senator Robert F. Wagner (New York) and Congressman David J. Lewis (Maryland) co-authors of bill of enactment. Hearings began January 22.

urer of the United States allotments to states providing old age disbursements approved by the Bureau, up to one-third of the amounts paid by the states as old age pensions.

... Sale of annuities to citizens of the United States in order to promote thrift.

... Pension of \$25.00 per month for all persons over 60 years of age. Graduated levies from 5 to 95 percent upon net incomes, salaries and earnings in excess of \$100,000.

The Wisconsin Plan

The national unemployment insurance plan includes many of the features of the Wisconsin law, which became effective July 1, 1934. This law provides:

An Unemployment Benefit Fund will be created and financed by the employer. This fund will be deposited with a trust company. The trustee shall keep the fund so invested that all assets can be readily converted into cash when needed, and to that end shall hold at least 20 percent of the fund either in earmarked cash or on deposit with the Federal Reserve. During the employer's first two years of contribution payments under this plan he shall contribute to the fund at the rate of 2 percent on his payroll; thereafter the employer's rate of contributions to the fund shall be determined as follows:

1. Whenever the fund amounts to less than \$55 reserve per employee the rate shall be 2 percent on payroll.

2. Whenever the fund amounts to \$55 but less than \$75 reserve per employee the rate shall be 1 percent on payroll.

3. Whenever the fund amounts to \$75 or more reserve per employee, the employer's contributions to the fund shall cease.

The employer may in his discretion at any time make payments to the

fund in excess of the above required amounts.

Payroll shall include all wages, salaries, and remuneration paid by the employer to his employees; except that payroll shall not include any salary or wage of \$300 or more per month; nor shall it include the amount paid to any employee or officer employed on a contractual basis for a fixed period at a fixed monthly salary which will aggregate at least \$1500.

An employee shall not be deemed eligible for benefits under this plan until he has, subsequent to the lawful contribution date, been employed by the employer either a total of more than four weeks of employment, or on a monthly salary basis for more than one month. The length of an employee's residence in the state will not affect his eligibility for benefits.

An employee shall not be eligible for benefits for a given week of partial unemployment, if he has received in wages \$1500 or more during the 12 calendar months, preceding the close of such week of partial unemployment. An employee shall not be eligible for benefits for a given week of total unemployment, if he has received in wages \$1,500 or more during the 12 calendar months preceding the close of his most recent week of employment.

An employee shall be considered "partially unemployed" in any calendar week of employment in which his week's wages are less than the amount of weekly benefit to which he would be entitled under this plan if totally unemployed, provided he was physically able to work and available for work whenever with due notice called on by the employer to report for work.

An employee partially or totally unemployed shall, unless disqualified, be eligible for benefits for each week

of such unemployment occurring subsequent to a waiting period of two weeks of total unemployment, or to an equivalent waiting period (to be calculated on the basis of benefits payable) of partial unemployment or of partial and total unemployment combined. No benefit shall be or become payable for this required waiting period. But not more than two weeks of total unemployment (or their equivalent in lost benefits) shall be required of any employee in any 52 consecutive calendar weeks, as a waiting period to establish his eligibility for benefit under this plan.

No benefits shall be paid or thereafter become due an employee for his unemployment during the following periods:

(a) During any period for which he has left and is out of employment because of a trade dispute still in active progress in the establishment in which he was employed.

(b) For any period during which he is out of employment because of an act of God, fire or other catastrophe or act of civil or military authority directly affecting his place of employment.

An employee shall no longer be eligible for total unemployment benefits based on his past employment for any period after the employee has without good cause refused to accept suitable employment when offered to him, or has failed to apply for suitable employment when notified by a local free employment office.

Each eligible employee shall be paid weekly benefits for total unemployment at a rate of 50 percent of his full-time weekly wage, with a maximum of \$10 and a minimum of \$5. The benefit payable for partial unemployment in any week shall be the difference between the eligible employee's actual wages for the week and the weekly benefit to which he would be entitled if totally unemployed.

Benefits based on his weeks of employment shall be paid each employee for the calendar weeks during which he is totally or partially unemployed and eligible for benefits; but no employee shall receive in any calendar year more than 10 weeks of benefit for total unemployment, nor more than an equivalent total amount of benefits either for partial unemployment or for partial and total unemployment combined.

The employer's liability to pay benefits under this plan is limited to the current net resources the fund has at any time. In case the fund becomes inadequate to meet in full all valid benefit claims, the weekly benefits normally payable under this plan shall be reduced.

Whenever at the beginning of the month the fund amounts to at least \$50 reserve per employee, the fund shall be liable for and shall pay in full all valid benefit claims for unemployment during the month. When such reserve amounts to over \$45 but

less than \$50, all such valid benefit claims shall be paid, except that no eligible claimant shall receive for total unemployment a benefit of more than \$9 per week. When such reserve amounts to over \$40 but less than \$45, no claimant shall receive a benefit of more than \$8 per week. For each further periodic drop of \$5 in the fund's reserve per employee, there shall be a corresponding further drop of \$1 in the maximum benefit per week payable to any claimant for total unemployment.

In no case shall the fund remain or be liable to pay benefits to an employee for any week of unemployment occurring more than 26 weeks after the calendar week during which the employee last performed services for the employer. Payments shall be made on the regular paydays of the employer, for such calendar weeks of unemployment as terminate within the pay-period covered by the payday in

accordance with such rules and to such agencies as the commission may establish for the settlement of disputed claims under this and other unemployment benefit plans. No claims for benefit, nor any interest in any unemployment benefit fund or reserve, shall under this plan be assignable before payment (except for recovery as a wage claim), but this provision shall not affect the survival thereof; nor shall any claims for benefit awarded, adjudged, or paid, nor any interest in any unemployment benefit fund or reserve, be subject to be taken for the debts of the employee entitled thereto.

The Ohio and Similar Proposals

Ohio has a plan, similar to the Wisconsin plan in principle but differing in certain major respects. This is a "proposed" measure and is now before the Ohio State Legislature. It is similar to the proposals of the American Federation of Labor and the Socialist party, and is favored by Secretary of Labor Perkins. It proposes a central pool and covers employers of three or more persons, with a limit of \$2,000 per year pension per employee. It excludes from its provisions public corporations, farmers, interstate commerce employees, farm laborers, domestic and public agencies. It is a bi-party plan, both employer and employee contributing to its upkeep, the employer paying in 2 percent of pay roll and the workers 1 percent, with contributions to be based upon 26 weeks in a year or 40 weeks in two years, with "suitable employment" provisions. The fund will be a state fund, covering all companies within the state. It also includes a provision that self-insurance may be permitted in two or three years. Benefits are provided to the extent of 50 percent of wages, but not to exceed \$15 per week, with a maximum benefit for 16 weeks in any year. The fund is administered by a state unemployment commission.

New York State also has a proposed bill very similar to the Ohio bill—as have the American Association for Labor Legislation and the American Federation of Labor.

Foreign Systems

The Labor Relations Committee of the National Manufacturers Association has made an exhaustive study of this subject, including the investigations conducted in European countries, which have long operated under some such system.

Countries having compulsory unemployment laws, and the date of their enactment, are:

| | |
|-----------------------------------|------------------------------------|
| Australia (Queensland), enacted | 1922 |
| Austria, enacted in..... | 1920 |
| Bulgaria, enacted in..... | 1925 |
| Germany, enacted in..... | 1927 |
| Great Britain, enacted in..... | 1911 |
| Irish Free State, enacted in..... | 1920 |
| Italy, enacted in..... | 1919 |
| Poland, enacted in..... | 1924 |
| Russia, enacted in..... | 1922 (Suspended October, 1930.) |
| Luxemburg, enacted in..... | 1921 (Never in operation.) |

Scope of Foreign Compulsory Unemployment Insurance Laws*

| COUNTRY | GENERAL COVERAGE | PRINCIPAL EXCLUSIONS | NOTEWORTHY INCLUSIONS |
|----------------------------------|---|---|--|
| Australia (Queensland) | All wage earners, 18 and over, whose wage is fixed by award or trade agreement. | Intellectual workers. Rural workers engaged in other than sugar and pastoral industries. Employees of Commonwealth. Permanent employees already provided for by superannuation funds can voluntarily exempt themselves. | Unofficial report that owing to decrease in employment, coverage has been reduced, and system does not hold as important a place in the industrial organization. A relief plan to take care of unemployed not covered by insurance is being established. |
| Austria | All wage earners and salaried employees subject to compulsory sickness insurance. | Agricultural and forestry workers (except workers in sawmills). Domestic servants. Workers with several employers. Middlemen and jobmasters. Workmen in purely rural districts unless engaged in the building trades or in establishments with more than five workers. Sons and grandsons of an employer. Rural workers temporarily engaged in public works. Apprentices up to last year of apprenticeship. | |
| Bulgaria | All workers and employees who are compulsorily insured in any type of social insurance. | Domestic servants. Public servants entitled to special benefits. | Seamen and some agricultural workers. Workers in public institutions other than noted. |
| Germany | All wage earners who are subject to compulsory sickness insurance getting less than 3,600 marks per year, and all salaried earners covered by compulsory old age and invalidity insurance getting less than 8,400 marks per year. | In general, persons engaged in agriculture, forestry, and fishing. Home workers. Apprentices of not less than two years (subject to insurance one year before expiration of term). All casual or unimportant workers not exceeding specified number of hours per week or specified monthly earnings. Female domestic servants. A few important firms are allowed to retain their private insurance system; their employees not obliged to join government system. | Crews of German vessels. Seasonal workers subject to varying conditions. |
| Great Britain | All workers of school-leaving age and up to 65 earning less than £250 per annum. (School-leaving age defined as that in force at the time.) | Agricultural workers. Domestic servants. Casual workers. Home workers in absence of any contract of employment. Permanent employees of railways. Certain employees of local authorities, poor law, asylum authorities and public utility companies. Persons entitled to rights in a superannuation fund and not ordinarily subject to dismissal can voluntarily exempt themselves. | Wife and dependent children of worker, and some other classes of dependents. |
| Irish Free State | Sixteen and over employed under contract of service. | Private domestic workers. Agricultural workers. Many minor groups of workers. | |
| Italy | All classes of persons who are subject to compulsory old age, invalidity and tuberculosis insurance. This includes all wage earners between 15 and 65 who are not independent workers. | Agricultural workers. Seasonal workers if employed less than six months each year. Domestic servants. Public employees. Home workers. Private employees earning more than 800 lire a month. Other minor classes. | Seamen of merchant marine. Certain part-time or casual occupations. |
| Poland | All wage earners over 16 in industrial or commercial enterprises. Separate system of insurance for salaried workers. | Agricultural and forestry workers. Seasonal workers, under certain conditions. Domestic servants. Casual workers. Public servants. Home workers. Workers employed on drainage projects, lasting less than eight months in year, unskilled workers employed on highway construction, etc., employed less than six months in year, workers in industrial plants active only six months in year, can voluntarily exempt themselves. | Salaried workers. (1928) All persons in administrative and executive positions in industry, trade or commerce, office employees, members of liberal professions, artists, etc. |
| Russia (suspended) | All workers and salaried employees and their children, to age 20. Soldiers in the reserve or demobilized. Young persons with technical training who belong to trade unions. | Persons whose families have monthly wage incomes in excess of a definite figure, varying in different districts and with the number of dependents, or if they have any income other than wages. | Workers in state-owned coal mines, sawmills, oil-drilling operations, etc. |
| Luxemburg (not yet in operation) | Wage earners over 16 years. | No specified exclusions. | |

* Compiled by the National Manufacturers Association.

Foreign laws providing extended benefits (that is, payments beyond legal period for which fund is liable): 1, Austria; 2, Germany; 3, Great Britain; 4, Poland (depending on financial condition of fund).

How European Plans Have Worked Out *

AUSTRIA

In order to balance the expenditures for the constantly increasing cost of the unemployment insurance and the emergency relief, it has been necessary for the government to levy additional taxes. In August, 1932, a surtax was imposed on the already existing sales tax. This tax was fixed at 100 percent of the sales tax. Austria is now studying a reform which is intended to distribute costs in a more equitable manner among the population.

| | 1932 | Shillings |
|---|-------------|-----------|
| Benefits paid, including emergency... | 269,642,028 | |
| (Of this amount workers and employees contributed 138,409,265.) | | |
| Cost of administration..... | 12,249,577 | |
| (Paid by government) | | |
| Crisis and emergency..... | 20,509,040 | |
| (Paid by government) | | |
| Advances | 14,973,383 | |
| (Paid by government) | | |
| Surtax | 64,211,545 | |

AUSTRALIA (QUEENSLAND)

Act has not been adequate to meet emergencies created by increased unemployment and state unemployment relief fund was instituted in August, 1930, to provide for those cases not covered by unemployment insurance.

State relief fund is financed by tax on incomes.

During fiscal year ending June 30, 1933, £1,771,111 were expended from the relief fund as compared to £338,807 paid to unemployed from the insurance fund.

BULGARIA

Apparently in good financial condition. However, emergency subsidies are voted for the unemployed which are subsequently transferred to this account.

From March 6, 1924, to March 31, 1933, receipts, 98,136,394 leva; expenditures, 44,166,848 leva. Surplus of 53,969,546 leva; but it is expected this will be reduced by about 7,000,000 in 1933-34.

GERMANY

During fiscal year ending March 31, 1933, funds required for payment of the three classes of insurance benefits divided as follows:

| | Pct. |
|--|------|
| Contributions of wage and salary earners and employees | 35 |
| Budgetary appropriations by Federal Government | 28 |
| Appropriations by local government..... | 23 |
| Yield from special tax (crisis tax)..... | 14 |
| | 100 |

Sixty-five percent is paid by the government, and although the German system is supposed to be in excellent

*As reported by National Manufacturers Assn.

financial condition, this shows that the system is not self-supporting, together with the fact that repeated increases in employer and employee contributions and decreases in duration of benefits have been necessary. Administration costs are approximately 100,000,000 marks a year. Crisis tax is an income tax.

According to new system for fiscal year ending March 31, 1934, contributions of wage and salary earners and employers will approximate 1,000,000,000 marks; appropriations of Federal Government for the welfare relief of the communities approximately 400,000,000 marks; appropriations by the local governments and municipalities approximately 600,000,000 marks; and yield from crisis tax approximately 500,000,000 marks.

The regular and extended benefits are paid from the funds made up from the premiums paid on account of the insured and the crisis tax, while the welfare relief is provided for from governmental appropriations, federal, municipal and local.

GREAT BRITAIN

Almost without interruption from 1920 to 1923 they went progressively further into the hole, but the deficit was remedied somewhat during 1934. The burden on the treasury, apart from regular contributions to the fund, increased since 1930 from £3,985,000 to £170,710,000. If the government had not come to the rescue during the 13½-year period with some £353,417,000 (including regular and transitional benefits), the operation of the unemployment insurance fund would be in the red £275,915,000. Even with the government help, apart from its regular contributions, the scheme is still in the red £105,215,000.

(The following figures were taken from *British Labour Gazette*.)

| | 1931-32 | 1932-33 | 1933-34 |
|----------------------------|-------------|-------------|-------------|
| Unemployment benefit | £80,168,975 | £54,171,487 | £40,290,000 |
| Contri.-employers | 17,109,429 | 19,049,157 | 19,650,000 |
| employees | 16,140,414 | 19,049,157 | 19,650,000 |
| Contri. by exchequer..... | 16,793,385 | 19,182,223 | 19,800,000 |
| Ordinary contri. | 444,477 | 6,363,377 | |
| Deficiency grant..... | | | |

In addition, during the three years in question the Exchequer paid £32,374,570, £53,785,682, and £52,250,000 (provisional) in respect of transitional benefit and transitional payments, and their administration.

IRISH FREE STATE

The 1931-32 contributions show a £200,000 decrease over 1930-31, but 1932-33 shows an increase of about £30,000 over 1931-32, but still approximately £150,000 decrease from 1930-31 figure. Expenditures steadily mounted during this period from £513,390 in 1930-31 to £681,657 in 1932-33.

ITALY

Surplus of 751,081,654 lire in December, 1932. Surplus in 1933 believed to be still large, although considerably reduced from the 1932 figure.

| | 1932 | Lire |
|-------------------------------|-------------|-------------|
| Receipts | 114,375,221 | |
| Insurance contributions | 38,814,654 | |
| Fund revenues | 797,664 | |
| Other receipts | | |
| | | 153,987,539 |

Which is 14,178,461 lire less than in 1931.

| | 1932 | Lire |
|-------------------------------|-------------|-------------|
| Expenditures | 186,212,136 | |
| Benefits paid | 15,845,951 | |
| Administrative expenses | | |
| | | 202,058,088 |

Which is 48,070,549 lire more than the receipts.

In 1932 the expenditures not only exceeded the receipts but a comparison of the 1931-32 figures shows that while the receipts dropped approximately 15,000,000 lire, the expenditures increased during the same period approximately 18,000,000 lire.

POLAND

Poland has reduced amount of benefits and raised amount of contributions of salaried workers. The benefit disbursements have steadily increased during the years of the world-wide depression.

Wage Earners

| | BENEFIT PAYMENTS | Zlotys |
|----------------------------|------------------|--------|
| 1929 | 5,411,887 | |
| 1930 | 11,719,926 | |
| 1931 | 11,362,719 | |
| 1932 (first quarter) | 3,790,061 | |

Receipts from 1930 to 1933 have steadily decreased and the expenditures have also decreased.

| | Decrease |
|----------------------------------|------------|
| Contributions approximately..... | 15,000,000 |
| Payment of benefits..... | 78,000,000 |
| Administrative costs | 3,000,000 |

Salaried Workers

Period 1928-32: In 1928 receipts exceeded expenditures by 16,492,000 zlotys, dwindling until in 1932 expenditures exceeded receipts by 24,516,000 zlotys. Benefits amount to about 90 percent of the total expenditures.

During the years of relative prosperity the financial basis of this insurance system was satisfactory, but with the advent of the depression the scheme began to break down due to the large number of persons receiving benefits and the reduced number contributing to the fund. Reserve funds, which amounted to 39,300,000 zlotys in 1931, were rapidly being exhausted at the beginning of 1933. In addition, the other insurance funds were being drawn upon to make up the deficits. (The total deficit for the year 1932 is estimated at \$3,029,000.)

Manufacturers' Attitude

Among the points broadcast by National Manufacturers Association, speaking for a large percentage of industry, are the following:

"When we add to the proposals of a 2-5 percent tax on payrolls through unemployment compensation funds, additions of at least 11 percent to manufacturing payrolls through such measures as the proposed maximum 30-hour week for all industries, we see very definitely one reason why industry as a whole is unable to make future commitments, which are necessary for real recovery. ***

Another problem which certainly needs further study before being enacted in to law is the proposal to establish a federal system of compulsory unemployment compensation insurance or reserves under which the Federal Government will determine the various standards which must exist in state legislation. Such a system may prove desirable, but there are dangers involved which must not be overlooked. We saw in our national prohibition system the failure of attempts to establish a national standard in this field without reference to the varying desires and needs of different sections of the country, the racial characteristics and background of sections of our population, and the widely different conditions in rural and urban areas. ***

"More recent experience under the NIRA codes likewise demonstrates the great difficulty of making any fair application of national standards to the greatly diversified conditions in the industries in the several states growing out of differences in size, location, stage of industrial development, type of operations and ability to shoulder new burdens. There is, moreover, danger that unless any plan, either Federal or State, which may be adopted, is founded on thoroughly sound principles it may result in actually increasing unemployment, not only in abnormal times, but more particularly during normal periods."

The Townsend Plan

In spite of the continuous agitation for these proposals during the past few years, relatively few people know anything about the subject, although it has been characterized as "beginning an epoch as vital in American affairs as was the Civil War."

Thousands of letters are daily received by the Administration protesting against or urging the passage of this legislation. The misinformation apparent is evidenced by the ludicrous plan called the "Townsend Plan," which goes Upton Sinclair's Utopia one better, and which has received the amazing endorsement of more than 30,000,000 persons by way of a signed petition. Briefly, the Townsend Plan proposes:

A pension of \$200 per month shall be paid every United States citizen over 60 (except habitual criminals) on condition that he or she retire from all gainful

work, promise to spend the whole \$200 within the month in the United States. The money—about \$20,000,000,000 per year—is to be raised by a Federal tax, how large or on what Dr. Townsend seems undecided. At first he proposed a 10 percent retail sales tax, later changing it to a 2 percent tax on all financial transactions. In spite of this interesting performance, there still are millions who have never heard of it. Yet it carries the threat of enactment in a Congress almost hysterical to "do something about unemployment." These same Congressmen, looking at statistics that are bewildering in their magnitude—40,000,000 men on relief—are determined to do something about it. With this welter of fact, fancy, and hysteria before Congress and the American people, haste should be made slowly in the adoption of a program to "relieve unemployment" lest we find ourselves in the same predicament as evidenced by Europe.

COST OF THE PLAN

The appropriations carried by the Wagner economic security bill are (in thousands):

| | Fiscal year 1936 | Each succeeding year |
|-------------------------------------|------------------------|----------------------------|
| Old-age pension | \$50,000 | \$125,000 |
| Unemployment insurance | 4,900 | 49,000 |
| Mother's assistance | 25,000 | 25,000 |
| Maternal and child health | 4,000 | 4,000 |
| Crippled children | 3,000 | 3,000 |
| Child welfare | 1,500 | 1,500 |
| Public health | 10,000 | 10,000 |
| Totals | \$98,400 | \$217,500 |

THE 30-HOUR WEEK

For several years organized labor has pushed steadily forward in its demands for the adoption of the 30-hour work week. The American Federation of Labor has advanced this proposal and has never let the issue lag for a moment. Notwithstanding the vehement statements from industry, large and small, that it cannot survive a decrease in work hours, labor leaders have never slackened their pace, nor tarried by the roadside. The American Association for Labor Legislation, which has been a powerful influence in labor legislation, both state and national, includes the 5-day week as a major tenet of its program.

INDUSTRY'S VIEW OF 30-HOUR PROPOSAL

Just what will be the effect of the adoption of this legislation? Listen to industry speaking: H. I. Young, president of The American Mining Congress,

in his annual address at the December, 1934, meeting of that organization, said:

"Certain legislation, which is being sponsored by powerful groups, will be presented to the coming session of Congress. The most dangerous legislation discussed in the past sessions, and which is likely to come up before the coming session, is no doubt the 30-hour week bill. No part of our industry can absorb the increased cost such a law would produce. The purchasing power of the country would be reduced, and instead of increasing our volume of business, the effect of this measure would be just the opposite. Industry as a whole has endeavored to spread employment to the fullest extent. I believe that one of our troubles today is that the total wage being paid by industry is being spread so thinly that very few of the people receiving wages have much more than enough to meet current living expenses. We know that to have general prosperity the wage earner must have in his pay envelope sufficient compensation to cover more than his usual living cost, otherwise, the contents of his pay envelope go to only those industries classified as 'consumers' goods' and do not help the mining or 'durable goods' industry. A 30-hour week would further increase the cost of living, and the purchasing power of the individual workman would not be increased. Very few, if any, industries today could absorb the increased cost that would be brought about by such a measure, and the enactment of this law would no doubt force many plants now being operated to discontinue operations, thereby creating additional unemployment."

"We should clearly set forth our position regarding this measure, and join with other industrial groups in opposing this, or any similar legislation that will retard recovery."

J. F. Callbreath, secretary emeritus of the American Mining Congress, appearing before the House Labor Committee, February, 1934, stated the position of his organization upon the matter of the 30-hour week proposals. He pointed out that:

(1) To the extent that labor-saving devices reduce the hours of labor required to supply needs of consumers frequent adjustment is necessary to the end that hours of labor shall be a little more than enough to meet consumption demand.

(2) That the National Recovery Administration has full power to do all things proposed in the Connery bill, and that it is unwise to tie the hands of the President in adjusting hours and wages to meet conditions as they are now and as they may develop.

(3) That any increase in production costs which opens our markets to importations instead of increasing employment will put an end to employment. Higher wages and shorter hours are required under the National Recovery Act. Foreign goods on a competitive basis before this act was enacted now have at least a 25 percent advantage over our domestic producers.

"(4) That it is unwise, during times of depression and unsettled conditions to make laws which might be entirely unsuitable during the prosperous time which we hope will prevail in the near future.

"(5) That a 30-hour week in 1929 would have limited our production to about five-eights of the goods which were consumed during that year and this shortage would have so enhanced prices as to work great hardship upon consumers.

"We do not believe it feasible to establish a rule which can operate uniformly in the various parts of the country and upon lines of business entirely different from each other. We do not believe it is wise to make laws for conditions of depression, which may be found entirely impracticable during times of business prosperity.

"We must object to any plan which because of the increased production cost prevents the sale of our products in competitive markets. We believe it is unwise to freeze into the industry by law, such a limit of hours of service as will make impossible the production of enough goods to meet consumption requirements during normal times. During the year 1929 the average number of employment hours per week of all wage earners in the manufacturing and mechanical industries of the United States was 48.4. The average number of persons so employed was 8,836,743.

"To have produced the same amount of commodities on the 30-hour-week basis would have required 14,141,989 workers, a difference of 5,000,000 workers. At that time the total number of unemployed in the manufacturing and mechanical industries in the United States, according to statistical reports was approximately 1,000,000 men. Counting the total employment of all workers attached to industry, there would have been a shortage to the extent of 35 percent of the goods produced and consumed during that year. During that year exports and imports were just a little above normal. No excessive surplus of commodities was accumulated; consumers demand kept pace with production and unemployment was at a minimum. Production was just far enough ahead of consumption to protect consumers against unreasonable prices. This estimate covers \$70,000,000,000 of and the greater part of the merchandise which reached the consumer through the channels of commerce and represents as nearly as may be, the actual consumption of goods in a normal year.

"We submit to this committee the question, 'What would have happened to the consumers if only five-eights of that production had been available? What worker would be willing to go hungry and bare for 4½ months each year in order that he might have 2 hours of daily additional leisure?'

A. W. Dickinson, mining engineer, representing the American Mining Congress and speaking before the House Labor Committee, April, 1933, said:

"In the difficult times of the present and for the past three years, the mines

■ ■ ■ ■ ■
A survey of the 74th Congress upon the subject of Social Insurance Measures shows:

SENATE (96 members)—

- 64 in favor of Old Age Pensions.
- 58 in favor of Unemployment Insurance.
- 86 Senators answered the poll.

HOUSE—

Most of the 435 members of the House of Representatives are in favor of both Old Age Pensions and Unemployment Insurance legislation.

NOTE: It formerly required signatures of 1/3 of the members of the House of Representatives to get a bill out of committee. By resolution, the 74th Congress has raised this to ½. In other words, 215 signatures, instead of 145.

of the United States producing gold, lead, copper, zinc, silver, coal and other metals and minerals, have put into effect 'a spread of the work movement' in an effort to keep employed the men resident in communities which depend upon mining, milling, smelting, refining, necessary transportation, and other attendant activities. At the present time throughout the West where, in many sections, mining represents the sole means of livelihood, mines are being kept in operation at definite loss in order that the employes and their families may be carried through in the hope of a better business status. In the outlying mining communities, the major portion of the tax burden is borne by the mining company and the burden of relief measures for whole communities necessarily falls upon them. The work has been spread to extremes; in one particular instance, a large operation furnishes one week's work each month to each man, the production of the property being held to the minimum by the market conditions now prevailing.

There are scarcely any properties which are at the present time on more than half-time basis and the owners and operating staff have taxed their ingenuity to the uttermost in the effort to hold over and to do what is possible to provide employes with bare means of living. This is not only true of the mines of the West, but also extends throughout the Eastern areas where the mining of coal is particularly in evidence.

"The proposed limited working hours of the bill, wherein the 6-hour day and the 30-hour week are contemplated, are particularly disturbing to mining, smelting and attendant industries when those charged with the responsibilities of management contemplate the difficulties which will be attendant upon the state of disorganization in operation which will inevitably follow. In concentrating and smelting, the 6-hour shift will be almost in operation an impossibility because 6 hours is not sufficient to complete the daily cycle of operations developed so as to permit of small scale and other operations being continued with reasonable efficiency. In the conduct of work on an 8-hour basis which has endured for a number of years, the day's performance is peculiarly adapted

to that period of time. The whole scheme of operation and type of equipment is tuned in and the habits and practices and efficiency of the workmen is an inseparable part of the arrangement. This has to do with the drilling of a round of blasting holes with the loading of an accepted number of cars and with many other stints and tasks which have come in the natural alignment.

"There are also certain callings and tasks which must needs have a much more elastic provision than a definite 6-hour day and 30-hour week throughout the year. The 10-week period of 40 hours per week contemplated in the amendments under consideration is entirely insufficient to provide for emergencies of mining. Minerals occur under a wide variance of conditions and their mining is accompanied by a wide variance of hazard and circumstance.

"It is particularly difficult to contemplate the operation of the 6-hour shift in deep and extensive mines where long distances must be traveled by the workers in going to and from their places of employment. Some of the older mines are at present over a mile in depth, with total lateral workings in excess of 100 miles in length requiring work in faces far distant from the main shaft. Two hours of each shift are required in getting the men from collar to collar, and time is taken for lunch in the extent of one-half hour. With the present 8-hour shift, the loss of time as necessitated by state law in some instances and in practice in others, is serious. As a matter of general practice, the increase in unproductive time from one eighth of a shift to one sixth of a shift is not to be regarded lightly, and in many instances under a 6-hour shift the unproductive time would amount to 30 percent. Under a 6-hour shift there would be a material increase in cost, particularly undesirable at the present time when metal and mineral prices are at the lowest level in history, and when there is practically no operation but what is suffering loss.

"This is particularly serious when we contemplate the viewpoint of the owners of a great many of these mines. If there is an increase in cost and hence

an increase in losses through disorganized state of operation, there is no question but that many, many mines will be forced to cease operation much as they would prefer to carry on keeping the organization of the workers together and the properties in condition to produce in the hope of better conditions ahead."

Many things have been published, pro and con, upon this subject. One of the most comprehensive is the study by the Brookings Institution of Washington, D. C., published January 3, 1935, which, among many important factors, stresses the following interesting points as relating to the effect of such legislation on industry:

"... In the 30-year period from 1900 to 1929 the working hours in American industry were reduced on the average from about 57 to approximately 50 hours per week. While this 13 percent reduction in the length of the working week was occurring, there was a rise in the per capita income of the American people of approximately 40 percent. All classes shared in this improvement.

"Important as has been this gain, few would be satisfied with the results thus far attained. . . .

"The relation of the 30-hour week proposal to the problems presented by the depression involves two distinct phases or aspects. At first, it was looked upon as a way of alleviating the distress of the unemployed; the means of breaking the depression itself. . . .

"It is not unnaturally advanced as a means of furthering the cause of labor as a special group. A reduction in working hours, rendering labor more scarce, would, it is believed, improve the bargaining position of employees and enable them to obtain progressively higher wages in the future. This, it is argued, would promote a better social order—through a better distribution of income. It is believed that scarce labor and high wages would prevent excessive profits and provide the larger income for the masses which is essential to the full utilization of productive capacity. . . .

"In considering the basic ideas underlying the 30-hour week plan it is necessary to break the discussion into two parts. . . .

How great is our productive capacity? . . . In 1929, the last year before the depression set in, the actual output of goods and services had a value of approximately \$1 billion dollars. The possible output . . . was approximately \$1 billion dollars worth of goods and services. . . . This figure, then, represents the practical capacity under the economic organization then existing.

Was production adequate to supply satisfactory living standards? If distributed equally among the entire population, the 1929 production would have given to each person goods and services valued at about \$665. Had we been able to operate at 100 percent capacity, the income per person would have been increased to about \$800. Income, however, is not divided equally. In 1929

there were over 2,000,000 families, having incomes of less than \$500; this amount had to support two or more persons—an average of at least four. There were about 3,800,000 families with incomes between \$500 and \$1,000, and more than 10,000,000 families with incomes from \$1,000 to \$2,000. As many as 16,354,000 families, or more than 60 percent of the total number, had incomes under \$2,000. A family income of \$2,000 scarcely provides for the basic necessities of life, and leaves little or nothing for comforts and luxuries.

How would the 30-hour week affect wealth production? . . . In 1900 the standard working week of wage earners averaged approximately 57 hours. By 1909 the average had been reduced to about 55, and by 1919 to about 51.3 hours. During the decade of the 20's there was further gradual reduction, and by 1929 an average of about 50 hours was reached. There was, however, a wide variation among the different divisions of industry, running from around 44 hours in coal production and the manufacture of men's clothing to as high as 60 hours in some divisions of the iron and steel industry.

"Since 1929 the standard working week has been reduced to an average of about 40 hours. . . . It appears, then, that there has been a reduction since the beginning of the depression by about 20 percent, or substantially more than had occurred in the previous 30 years. The proposed further reduction to 30-hours a week would mean a total reduction for wage earners since 1929 of 40 percent.

"The question presents itself squarely—Can we maintain a level of production equal to that of 1929 on a 40 percent shorter working week for the major portion of American workers? It is evident that such a maintenance of output would be possible only provided there has been a corresponding increase in productive efficiency during these years.

"We conclude that a reduction in the hours of work such as is contemplated would inevitably mean a volume of wealth production substantially below the levels obtaining in 1929. . . .

Would the 30-hour week generate recovery? . . . Conceding for the sake of the argument that the purchasing power theory of business recovery is sound, we must nevertheless ask whether an expansion of purchasing power by means of the 30-hour week is a feasible means of accomplishing the desired result. A 30-hour week would involve a simultaneous increase in wage rates and a decrease in productive efficiency. The volume of output would be declining at the same time that the payment of wages was increasing. This would perform result either in bankrupting business or in a rise in prices more rapid than the expansion of payrolls. If the former alternative resulted, we obviously would not have recovery, but rather greatly intensified depression. In the latter alternative the rapid advance in prices would nullify the increased money wages. . . . A rigid universal 30-hour

week, would put industry in a straight jacket and reduce efficiency. . . .

"Assuming that the 30-hour week could be installed on a national scale without throttling enterprise, it remains to trace its consequences.

1. Wage earners. The 30-hour week has been advanced primarily in the interests of the laboring class as a whole. Let us, therefore, consider just how it would affect the wage earners. At first glance it would appear that, since there would be no cut in wages, the position of the worker who is employed would in no wise be impaired. The truth is, however, that his real wages would be appreciably reduced in consequence of the rise in prices. Everything that he purchased which was produced by industries operating on the 30-hour week schedule would, as we have seen, be substantially enhanced in price. Moreover, there would be a tendency, for reasons already indicated, to freeze standards of living at the reduced level.

"The special effects upon different wage earners will depend upon the method used in establishing the plan. At present there is a great variation in working hours among individual employes, different plants, and different industries. Thus, according to September, 1934, figures, the average in meat packing was about 43 hours per week while in iron and steel it was less than 23 hours. If the measure were applied indiscriminately on the basis of the actual hours worked at the time it took effect, the workers in meat packing would obtain an average weekly wage based on 43 hours of work with added leisure of 13 hours while those in iron and steel would presumably be left with average wages for a 23-hour week, with no possible increase of leisure.

2. Salaried and fixed income groups. It is not clear from current discussions whether the 30-hour week would be made applicable to individuals working on salaries in industry and other occupations. If it did apply to them they would be affected in much the same way as wage earners. They would have more leisure, but this would be at the cost of a lower real income. If the 30-hour week were not applied to this class, they would have the lower standards of living without an increase in leisure. Individuals living on fixed incomes would be adversely affected to the precise extent that prices rose. . . .

"It should also be pointed out that certain types of industries would be adversely affected. Regulated industries, such as the railroads and public utilities, would be unable quickly to advance prices as wage rates and costs of production increased. In consequence, earnings would be naturally reduced; and in view of the slender margin of profits now existing we might well expect a new epidemic of bankruptcies. In any event, it would prevent such industries from contributing toward recovery by increased expenditures for replacements and new equipment. . . .

"Finally, it should be noted that this program ignores the experience gained

under the NRA—with reference to the control of purchasing power, the safeguarding of the position of smaller industries, and the problems of regulation generally. In fact, the administration and enforcement of a 30-hour week for industry generally would present far more intricate and baffling problems of policing and control than any yet encountered.

"In summary, this analysis of the economic effects of the 30-hour week clearly leads to the conclusion that the measure would not promote national welfare. It would prove detrimental to the interests of labor as well as other classes. It would not promote recovery and bids well to intensify the depression. At best its immediate effects would be a spread of employment at the expense of efficiency and productive output. In its long-run implications the measure offers to the workers of the country merely a choice between more leisure and a more abundant consumption of goods and services.

"It goes without saying that it is the duty of the nation to prevent want among the unemployed. But to seek this end by a compulsory reduction of the hours of work, which would freeze the possible volume of production below the level required to give all the people the abundance they desire, is as shortsighted as it is lacking in understanding."

The View of Bituminous Coal*

If the public should be confronted with an increase in its bituminous coal bill, amounting to over \$100,000,000 a year, it would naturally seek a way of relief. Two such ways would be open to it and both would undoubtedly be utilized. On the one hand there is the possibility of increased efficiency and economy in combustion such as has greatly reduced the consumption of bituminous coal in recent years. These economies have been introduced in the past in spite of the fact that at the time of their introduction the price of bituminous coal was abnormally and unprofitably low. Price advances have already become necessary because of the increased costs entailed under the bituminous code. A further advance coming at this time will greatly stimulate the research for new methods of saving fuel and will hasten the adoption of improvements already known by establishments not yet using them. On the other hand there is the possibility of resorting to competitive sources of energy, which have already made great inroads upon what was once the bituminous coal market. In industrial use competition between rival sources of energy is entirely a matter of cost, and even in domestic use relative cost is an important consideration. A further advance in the price of bituminous coal can mean only more rapid and more extensive adoption of fuel oil, natural gas and hydro-generated electricity both in domestic and in industrial consumption.

*As compiled by The National Coal Association.

Twenty states have ratified the Child Labor Amendment.

Twenty-eight states have enacted various old age pension laws.

Only one state has operative an unemployment insurance bill—Wisconsin.

During the first eight months of 1933 more than 60 compulsory unemployment insurance bills were introduced in 25 state legislatures. Bills were passed in one branch of legislature in New York, Connecticut, California, Ohio, Minnesota and Utah. Several states have commissions to study and report on the unemployment insurance question.

Sixteen states have minimum wage laws.

Every state but four—Florida, South Carolina, Arkansas, and Mississippi—has enacted workmen's compensation insurance.

How great the loss of market in either of these directions would actually be cannot be accurately foretold, but that it would amount to many millions of tons annually is clearly indicated by the extent of the inroad already made upon the bituminous coal market.

At the rate of production per man in 1933 every million tons of market lost to bituminous coal would deprive 1,250 mine workers of a full year's employment; or, to measure the effect in another way, would take away from every one of the 418,703 employees in the industry a half day's work . . .

"If it is established it will impose upon the coal-consuming public a large increase in its annual fuel bill, will inflict hardship upon mine operators, railroads and other agencies engaged in the production and distribution of coal, and will increase instead of decrease the percentage of idle time of the mine workers themselves. When the real situation is understood enlightened public opinion may be depended upon to secure the rejection of this ill-advised and socially costly proposal.

"To reach a rational judgment as to the effect of the establishment of a maximum 30-hour week it is necessary to consider the existing employment situation in the bituminous mining industry. In 1933 it operated under a 48-hour week for nine months and under a 40-hour week from October to December. In that year, as shown in the 1933 tables compiled by the Bureau of Mines, 418,703 men were employed; they produced 333,600,000 tons of coal. Each man worked on an average through the year 25.7 hours per week. If there had been a uniform rate of operation of 40 hours per week throughout the year, the number of men necessary to produce the 334,000,000 ton output of that year would have been 268,450, instead of the number actually employed, 418,703 . . .

" . . . The claim that men will get out more coal in a 30-hour week than in a 40-hour week is entirely unsubstantiated by facts. Such evidence as there is bearing upon the question points in the opposite direction. In the year 1931, during all of which the work-week consisted of 48 hours, the output per man per day amounted to 5.30 tons; whereas in 1933, during the last three months of which the 40-hour week was

universal, the output per man per day was only 4.78 tons. Certainly this lends no support to the claim that shorter hours will bring greater production per man. There is no reason to doubt that the labor cost per ton would be increased by approximately 33 1-3 percent.

The argument against the 30-hour week has been presented solely from the point of view of the bituminous mining industry. It may be summarized as follows: In many industries a 30-hour week may mean a 30-hour week; in the bituminous industry, because of its seasonal character, a nominal 30-hour week means an actual average, for the hundreds of thousands of men in the industry, of about 24 hours throughout the year, an average for the country as a whole in the months of minimum production of less than 20 hours per week, and in individual states of less than 10 hours per week. This extremely short working week would be enjoyed not only by the 400,000 men needed in the industry while operating under a 40-hour week, but by an additional 100,000 men needed to get out the production of maximum months under a 30-hour week; consumers of bituminous coal would be expected to foot the bill; and nine-tenths of the additional cost would come, not out of the much-maligned employers, but out of the great body of laborer-consumers.

This is on the assumption that the consumption of bituminous coal would not fall off as a result of the substantial increase in costs and prices that the introduction of the 30-hour week would entail. As a matter of fact, the demand for bituminous coal would be seriously curtailed through increased economies in consumption and through the resort to rival sources of heat and power. Even the imposition of a 30-hour week in the petroleum, natural gas and hydro-electric industries would afford no relief to the bituminous industry, since labor cost is an insignificant factor in the total cost of production of those commodities. The resulting decline in production and in volume of employment would bring in its train demands for advances in wages to offset the decline in hours of work, and finally, when the decline had gone far enough, a demand for a five-hour day and a five-day week, supported by the argument that in a 25-

HOURS OF WORK PER WEEK IN MONTH OF MINIMUM PRODUCTION UNDER
40-HOUR WEEK, 35-HOUR WEEK AND 30-HOUR WEEK—1931

| State | Production (000 omitted) | Number of em- ployees | BITUMINOUS COAL | | | Percent- age mini- mum pro- duction is of maximum production | Hours of work per week available in minimum month for number of men needed in maximum month | | | |
|---------------|--------------------------------|-----------------------------|--------------------|---------|----------------|--|---|-------|-------|-------|
| | | | Monthly Production | | 40-hr. week | 35-hr. week | 30-hr. week | | | |
| | | | Maximum | Minimum | | | | | | |
| Alabama | 11,999 | 22,973 | Jan. | 1,285 | Dec. | 852 | 66 | 26.52 | 23.21 | 19.89 |
| Arkansas | 1,154 | 4,733 | Oct. | 229 | May | 34 | 15 | 5.93 | 5.19 | 4.45 |
| Colorado | 6,604 | 10,028 | Jan. | 839 | July | 287 | 34 | 13.68 | 11.97 | 10.26 |
| Illinois | 44,303 | 49,685 | Jan. | 5,092 | June | 2,842 | 56 | 22.32 | 19.53 | 16.74 |
| Indiana | 14,295 | 12,311 | Jan. | 1,627 | July | 935 | 57 | 22.99 | 20.11 | 17.24 |
| Iowa | 3,388 | 7,897 | Jan. | 390 | July | 203 | 52 | 20.80 | 18.22 | 15.62 |
| Kansas | 1,987 | 3,813 | Jan. | 245 | June | 117 | 48 | 19.11 | 16.72 | 14.33 |
| Eastern Ky. | 31,384 | 36,541 | Jan. | 3,015 | Dec. | 2,134 | 71 | 28.31 | 24.77 | 21.23 |
| Western Ky. | 8,580 | 11,225 | Jan. | 984 | July | 524 | 53 | 21.31 | 18.64 | 15.98 |
| Maryland | 2,006 | 3,224 | Jan. | 226 | May | 136 | 60 | 24.07 | 21.06 | 18.05 |
| Michigan | 359 | 1,372 | Jan. | 61 | May | 6 | 10 | 3.93 | 3.44 | 2.95 |
| Missouri | 3,620 | 5,362 | Dec. | 422 | June | 204 | 48 | 19.33 | 16.92 | 14.50 |
| Montana | 2,378 | 1,672 | Dec. | 290 | July | 136 | 47 | 18.76 | 16.42 | 14.07 |
| New Mexico | 1,553 | 2,830 | Jan. | 172 | Aug. | 102 | 59 | 23.72 | 20.76 | 17.79 |
| North Dakota | 1,519 | 1,300 | Dec. | 196 | May | 75 | 38 | 15.31 | 13.39 | 11.48 |
| Ohio | 20,411 | 25,085 | Jan. | 1,965 | April | 1,458 | 74 | 29.67 | 25.97 | 22.26 |
| Oklahoma | 1,908 | 4,634 | Jan. | 240 | May | 83 | 35 | 13.84 | 12.11 | 10.38 |
| Pennsylvania | 97,659 | 116,726 | Jan. | 9,847 | Dec. | 7,091 | 72 | 28.80 | 25.20 | 21.60 |
| Tennessee | 4,722 | 7,444 | Jan. | 523 | June | 326 | 62 | 24.93 | 21.82 | 18.70 |
| Texas | 716 | 1,148 | Aug. | 76 | May | 50 | 66 | 26.32 | 23.01 | 19.74 |
| Utah | 3,350 | 3,268 | Dec. | 509 | July | 112 | 22 | 8.80 | 7.70 | 6.60 |
| Virginia | 9,699 | 11,357 | Jan. | 951 | Dec. | 730 | 77 | 30.71 | 26.87 | 23.03 |
| Washington | 1,846 | 2,662 | Dec. | 208 | May | 112 | 54 | 21.50 | 18.84 | 16.15 |
| West Virginia | 101,473 | 97,787 | Oct. | 10,082 | Dec. | 7,166 | 71 | 28.43 | 24.87 | 21.32 |
| Wyoming | 4,994 | 4,759 | Oct. | 534 | July | 289 | 54 | 21.65 | 18.95 | 16.24 |
| U. S. | 381,907 | 449,836 | | 40,008 | | 26,004 | 65 | 26.00 | 22.75 | 19.50 |

hour week all the coal could be produced for which a market existed; and the argument would be just as plausible and just as specious as is the present argument for a 30-hour week. In an industry with as high a degree of irregularity of employment as exists in the bituminous mining industry, and with as insecure a hold on its market as bituminous coal possesses, to attempt to regularize employment conditions by reducing the allowable maximum hours of work per week is to enter upon a vicious circle leading to ever greater and greater demoralization."

View of U. S. Chamber of Commerce

The United States Chamber of Commerce, through its Congress of American Industry, says:

"A uniform 30-hour week (or restrictions on working time for separate industries that would result in an average work-week approximating 30 hours) would establish a barrier to any substantial expansion in the volume of business in the near future. * * *

"To produce a maximum volume of business and employment, hour and wage standards must be suited to the requirements of each enterprise. Accordingly, such standards must be flexible enough to meet the needs of individual enterprises within an industry as well as the needs of diverse industries. Inflexible restrictions on employees working time throughout all fields of business would

result in lessened production, contraction in trade, and lower standards of living for large numbers of employees.

"Plants operating at a relatively high rate of capacity would be hampered by being required to reduce working hours of their present employees to employ additional help. Efficiency would be reduced, uneconomic additions to plant might be forced, and business might be driven to inefficient establishments with a subsequent loss in total volume of production.

"Moderate reductions in hours, with proportionate reductions in the weekly earnings of employees, may constitute effective expedients for minimizing unemployment when volume of business is declining. If carried to extremes, curtailment in working time may prolong a depression.

"Limitations on total output resulting from any substantial shortening of working hours cannot be counteracted by increasing wage rates. Any general advance in wage rates and in employees' earnings would be justifiable only if preceded or accompanied by an equivalent increase in productivity.

"Increased costs of operation can be recovered only by increasing prices. Consumer resistance to higher prices reduces the demand for goods. A large segment of industry and trade is now operating at a loss and will continue to do so until the barriers to profitable operation are removed. Further reductions in working time with upward ad-

justments in wage rates would intensify present maladjustments in price relationships and bring about a decline in total volume of business.

"Continuation of code processes for permitting each industry to solve its own problems of wage and hour adjustments should be depended upon as the most appropriate means for dealing with the subject. Consideration of further experimental measures to regulate hours and wages should be deferred until conclusive evidence is available that the means now at hand are inadequate or unsuitable.

"Whenever standards for hours of work are considered necessary for any industry, they should be established by agreement among the preponderant number of the enterprises therein without any attempt at their determination through the arbitrary process of legislation or administrative orders.

"Governmental action respecting hours and wages should be confined to approving and enforcing such basic standards for maximum hours and for minimum wage rates for unskilled labor as are considered necessary to prevent unfair competition. Adjustment of wage scales above the minimum should remain the responsibility of individual enterprises free from governmental control.

"While hours have been moderately reduced and employment increased at least temporarily by NRA codes, to varying degrees in individual industries, there still remain wide differences in the

relative volume of employment and in the working schedules of major fields of business. The extent of these variations is shown by data compiled by the United States Bureau of Labor Statistics for September, 1934.

| Field of Business | Index of Employment (1929=100) | Average Hours Worked Per Week |
|---|-----------------------------------|-------------------------------|
| Manufacturing (90 separate industries) | 72.3 | 33.3 |
| Anthracite mining | 56.9 | 29.2 |
| Bituminous coal mining | 78.2 | 23.6 |
| Metaliferous mining | 42.3 | 34.6 |
| Quarry and non-metallic mining | 53.3 | 33.0 |
| Crude petroleum producing | 81.8 | 34.4 |
| Telephone and telegraph | 70.9 | 38.4 |
| Electric light and power manufactured gas | 85.8 | 37.2 |
| Electric railroad and motor bus | 72.5 | 44.5 |
| Wholesale trade | 85.3 | 40.6 |
| Retail trade | 87.6 | 40.1 |
| Laundries | 82.9 | 39.4 |
| Dyeing and cleaning | 80.0 | 40.8 |
| Hotels | 84.4 | 46.9 |
| Steam railroads | 61.5 | .... |

Even greater disparities, within the field of manufacturing during September, 1934, are disclosed by comparable data for certain manufacturing industries:

| Industry | Index of Employment (1929=100) | Average Hours Worked Per Week |
|--|-----------------------------------|-------------------------------|
| Beverages | 174.4 | 38.2 |
| Canning and preserving | 151.9 | 34.3 |
| Rayon | 125.0 | 36.4 |
| Slaughtering and meat packing | 125.3 | 43.0 |
| Radio and phonographs | 107.5 | 32.7 |
| Chemicals | 98.9 | 37.8 |
| Paper and pulp | 99.3 | 36.1 |
| Baking | 93.6 | 40.5 |
| Wire work | 96.8 | 31.1 |
| Petroleum refining | 90.8 | 34.0 |
| Knit goods | 89.4 | 32.5 |
| Cast iron pipe | 58.2 | 29.7 |
| Rubber boots and shoes | 55.2 | 32.6 |
| Steam and hot water heating apparatus and steam fittings | 63.3 | 33.8 |
| Hardware | 45.0 | 28.5 |
| Lumber— | | |
| Mill work | 40.9 | 33.6 |
| Saw mills | 88.9 | 33.8 |
| Brick, tile and terra cotta | 35.2 | 31.5 |
| Marble, granite, slate, etc. | 32.6 | 30.3 |

"If working time should be reduced to a uniform level of 30 hours, changes in employment in the industries that have suffered the greatest declines would be negligible, as these industries are now utilizing working schedules closely approximating the 30-hour limit. On the other hand, further reductions in hours in the industries that have approached or exceeded 1929 volume of employment would create serious complications. Some enterprises in the latter industries have already encountered difficulty in meeting their requirements for qualified employees while operating on schedules considerably longer than 30 hours.

"Accordingly, since the proper maximum hours necessarily must vary among industries and in the same industry at different times, they should continue to be determined by the enterprises in each industry acting through their trade groups or code authorities. Moreover, when changes in standards for hours are made necessary there should be no arbitrary adjustments in general wage scales. Under all circumstances, no limitations on hours for any

particular industry should be established, except upon the initiative of the preponderant number of enterprises in the industry. Such restrictions should always safeguard the living standards of the workers already employed and be fixed at levels conducive to the maintenance of sound competitive conditions."

National Industrial Conference Board

The National Industrial Conference Board, after a survey, has announced that the adoption of the 30-hour week would increase employment 11 percent.

The board's analysis shows that the proposed reduction of hours by law would probably produce for workers and employers the following results:

For the employed workers: Reduced hours, increased hourly earnings, stationary money income per week, and increased cost of living.

For the manufacturers: Smaller output per man-hour, increase in labor cost per man-hour, and a larger increase in labor cost per unit of product.

In September, 1934, 6,352,000 wage-earners in manufacturing industries averaging 33.3 hours per week furnished 211,518,000 man-hours in manufacturing production each week.

To furnish the same number of man-hours with an average 30-hour week per worker would have required a working force of 7,051,000, that is 699,000 or 11 percent more than were actually employed.

The wage earners employed in September, 1934, received \$117,887,000 for a week's work or 55.7 cents per hour.

Under the average 30-hour week these workers would give 190,560,000 man-hours of labor, and, it is proposed, receive the same sum per week, and thus be paid at the rate of 61.9 cents per hour. There would be an increase of employment of 699,000 workers who would render 20,970,000 man-hours per week. Payrolls would not increase in the same proportion as workers since the newcomers would on the average receive less per hour than the seasoned employees.

How much less the rate would be cannot be accurately determined, but if these new workers were to be paid about 80 percent of the rate for the experienced employees, say 50 cents, they would require a total payment of \$10,485,000. If this sum be added to the previous payroll the total would be \$128,372,000. The average rate per hour for all workers old and new would therefore be 60.7 cents. The advance in total payrolls and in the average rate per hour would be about 9 percent.

The increase of labor costs per unit of product under an average 30-hour week would be parallel to that of labor costs per man-hour provided output per man-hour were unchanged. The addition of new, inexperienced workers, and the less efficient operation of the plant would probably decrease, in the first instance, the output per man-hour and hence the labor cost per unit of product would increase more than the labor cost per man-hour.

How far these increased labor costs

would affect total costs of production would depend largely on the part that labor expense plays in the output of any given industry. When much labor is expanded on comparatively cheap materials the increased costs would be considerable.

The bills introduced upon this subject in the present Congress are:

S. 87—30-Hour Week—Black (Dem., Alabama). Committee on the Judiciary. To prevent shipment in interstate commerce of articles and commodities, in connection with which persons are employed more than five days per week or six hours per day. Exemptions only upon application to Secretary of Labor. Would extend six-hour day and five-day week to all codes under NIRA. Prohibits reduction in daily, weekly or monthly wage rate existing on date this bill becomes effective, until opportunity afforded employees, through representatives of own choosing by majority vote, to consider such reduction.

H. R. 2746—30-Hour Week—Connery (Dem., Massachusetts). Committee on Labor. During the period of national emergency declared in bill, no employee in trades or industries producing, transporting or distributing goods or services in or affecting interstate commerce, to be permitted to work more than 30 hours per week or five days per week, or six hours per day. Exemptions only on proof of inadequate supply of labor, etc., and agreement by employer to adjust rates of compensation so that average weekly earnings are not reduced. Such adjustments also required to obtain exemption from anti-trust laws under NIRA. Does not apply to agricultural workers, domestic servants or railway employees. President given power to limit imports through fees, licenses, etc., upon proof that articles being imported in such quantities as to endanger objectives of the proposed act.

H. J. Res. 48—Amending Constitution to Permit Congress to Reduce Hours of Work—Crosser (Dem., Ohio). Committee on the Judiciary. Amending the Constitution of the United States by introducing Article XX as follows: "To promote the general welfare, the Congress shall have power to reduce the number of hours of service per day and days per week for which contracts of employment may be lawfully made."

H. J. Res. 55—Congressional Power to Regulate Production, Markets, Wages and Hours—Kvale (F.L., Minnesota). Committee on the Judiciary. Proposes an amendment to the Constitution. "The Congress shall have power during the existence of an emergency, to regulate the production and marketing of any and all commodities, to prescribe minimum wages for labor, and to prescribe maximum hours of labor."

S. J. Res. 3—Regulating Hours, Wages and Production—Costigan (Dem., Colorado). Committee on the Judiciary. Proposing an amendment to the Constitution of the United States empowering Congress to regulate hours and conditions of labor and to establish minimum

(Concluded on page 60)

Shall Anthracite Towns Willingly

Become Deserted Villages?

By T. M. DODSON*

IN ATTEMPTING correctly to diagnose the trouble with the anthracite industry let's take a look at this patient, so to speak:

A comparison of the industry's figures for 1924 with those for 1933 shows the following striking shrinkages in all the factors that count for prosperity for the entire anthracite region:

| | 1924 | 1933 | Percent Shrinkage |
|----------------|---------------|---------------|-------------------|
| Tons produced. | 80,300,000 | 46,600,000 | 42% |
| Days worked... | 274 | 178 | 35% |
| Men employed. | 162,000 | 102,000 | 37% |
| Pay roll | \$314,000,000 | \$140,000,000 | 55% |

(Figures procured from the Pennsylvania State Department of Mines.)

Thus we see that in 10 years this industry has been rapidly wasting away just as one would with a withering fever.

In 1820 approximately 1,000,000 tons of anthracite were produced, while in 1924, generally accepted as a normal year, production grew to 80,300,000. Since that time the anthracite tonnage has dropped so precipitously that it should be of the gravest concern to every man and woman whose livelihood is even remotely dependent on the industry.

The shrinkage of 33,700,000 tons of anthracite's market is generally attributed to the inroads of oil, gas, coke and bituminous coal, either because some of them are cheaper than anthracite, or because of the automatic features of oil and gas. These four substitute fuels account for 30,500,000 tons of the total shrinkage since 1924, while the increase in imports and loss of exports, the use of wood and the general depression make up for the remaining loss of 3,200,000 tons.

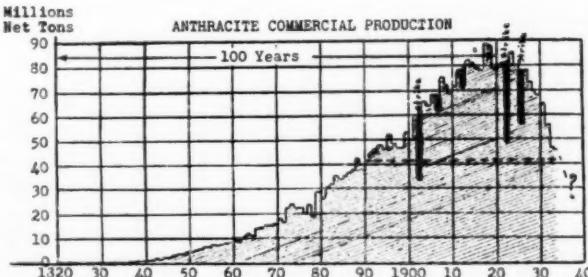
The fact of the matter is that it is not the cheapness of coke or bituminous coal, or the automatic feature of oil and gas that are primarily responsible for the loss of anthracite markets. The real reason is that due to an anthracite wage scale entirely out of line with the purchasing power of the public in general, the selling price of anthracite, by necessity, has been so high that the substitutes for it have been able literally to romp in and take away a large portion

of anthracite's market with comparatively little resistance.

The rising cost of living during the World War and subsequent inflation of all values carried the mining wage rates of both bituminous and anthracite coals to a peak never before or since known among the rate schedules of skilled and semi-skilled labor. The Federal Fuel Administration had set marginal servicing rates for the retail coal dealer, commensurate with the then values and the railroads had raised their tariffs.

During the period 1920-1924 much transpired in the anthracite industry to which can be attributed the present disastrous condition of that business. Labor, in the fight for complete recognition of its union, repeatedly "struck" the mines, interrupting the supplies of coal going to market. Four general strikes which closed all the mines for a total of 296 days had already occurred since 1900; during the period from 1920-1924, two more were called, one of five months, another of 18 days, and in the winter of 1925-26, the mines were again closed for 170 consecutive days. People became unwilling to rely on anthracite for their winter supply of coal and began to look for more dependable sources for fuel.

In 1923 the Governor of Pennsylvania brought about a 10 percent increase in the miners' wage rate which had already been increased by 17 percent on April 1, 1920. The Legislature of Pennsylvania passed a bill that put an ad valorem tax on anthracite (not bituminous) coal with the explanation that New York and the New England States (anthracite's largest markets) would foot the bill. This action and the explanation brought about much resentment on the part of those states. These were years during which the country was endeavoring to



Note that it took just 100 years for our anthracite production to reach its peak (1820-1920), and then see how rapidly it has fallen away, so that we are now back to the production of 1890 and are still dropping. Our decline started in 1926—three years before the depression of 1930, which only added to the forces already at work against anthracite.

return to normal—wages, costs of living and commodity prices were flattening off.

In 1926 the bituminous wage rates shrunk and shortly afterward the cost of living fell and all other major industrial wages dropped more nearly to the pre-war basis. Subsequently came the depression, stagnating business and greatly crippling the purchasing power of all classes.

No modification, however, of the anthracite wage contract had been made and, therefore, it was necessary to endeavor to continue a price on the product that would support the wage. This permitted oil, with its automatic features, and coke, then manufactured in by-product plants located along the eastern Atlantic seaboard, to ride in so easily on anthracite's territory. But it was impossible to maintain such a price level with sagging markets, and it continued to drop, with the wage scale still at the top.

By the close of 1933 the anthracite coal companies, with but few exceptions, after meeting their fixed expenses of labor, supplies, power, taxes, insurance and overhead, had reached a point where they were unable to provide for their obligations. And they have lost that portion of their markets that is essential to continuing the operation of their mines beyond a few years, unless rapid recapture of these markets ensues. To

* Vice President, Weston Dodson & Co.

support the wage scale, economies have been made to a point already where there is little room for more, with safe mining.

A sad picture of what was once a thriving industry.

Unquestionably, high wage rates have been the major cause of the catastrophe that has fallen upon the anthracite region. The United Mine Workers of America in the past 10 years have attempted to prove that high wages mean prosperity and the result has been that nearly half of the anthracite mines have been abandoned, and the 162,000 men who used to work 274 days a year have been reduced to 102,000 men who work only 178 days a year.

It is a grave question whether Congress with all its power can bring about prosperity by increasing high wages and shortening working hours per week. Certainly the NRA is a doubtful success in that direction.

Should anthracite wages be reduced? They should, not 5, 10, or 15 percent, but 30 percent; let the miners, the operators and all others interested, cut the cost of anthracite down so that no sensible householder can refuse to buy it, and then with their markets re-established, they can begin to breathe and draw a little more out of the business to live more comfortably on.

The operators are helpless to bring this about; their position is too vulnerable; a long strike would take away what little assets they have left, and the tremendous cost of maintaining a coal mine without production will eat up the current assets of a coal company in a very short time; another long strike would destroy one-half of the remaining market for anthracite.

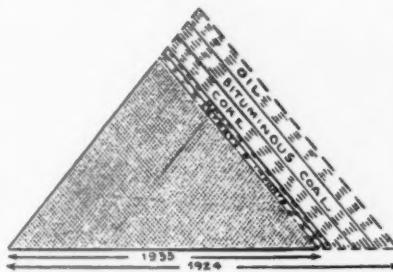
The labor leader cannot come out for a reduction, even though he knows the fallacy of high wage rates. He must stick to his demands for a higher and yet higher wage, or the radicals will throw him out of office. He has distinguished leadership in politicians the world over; they know that the proletariat is the least capable of the citizenry to govern, yet they are elected by the proletariat, and must at least not offend it.

The industrious, intelligent miner may realize that he is approaching a climax which may be disastrous to him, even if he has not already lost his job, but he is but a chip floating about in a whirlpool of unionism, radicalism, and social problems which engulf him and confuse him in his interpretation of his condition.

Mr. James A. Gorman, the umpire of the Anthracite Conciliation Board, in a recent report said in part as follows:

"If we are aiming at some permanent improvement in conditions there should be a thorough going study from the standpoint of the industry, the workers, and the anthracite communities which now suffer from the effects of a lowered output and a surplus of labor. * * * It should inquire into causes and effects and, if possible, point to ways and means of meeting the situation. Such a study

Replacement of Anthracite by Substitute Fuels Since 1924



| | Loss, Net tons |
|--------------------------|-------------------|
| Oil | 10,500,000 |
| Bituminous | 9,500,000 |
| Coke | 9,000,000 |
| Gas | 1,500,000 |
| Exports and imports..... | 3,200,000 |
| Total..... | 33,700,000 |

might require the support of the National or State Government or both."

The problem is distinctly up to the bankers, business men, and professional men of the anthracite region. They have seen real estate values dwindle to a fraction of what they should be, store after store has closed, doctors and dentists have had to give up their offices.

This adjustment will come only at the insistence of the people of the anthracite region. Just imagine Scranton, Wilkes-Barre, Pottsville, and other anthracite towns with all anthracite mines closed. Imagine the deserted villages there would be in the region. And that is just what will happen in the near future if the market for this remarkable fuel continues to dwindle as it has in the past 10 years.

A. W. LAING was reelected president of the Winding Gulf Operators Association at its annual meeting, with L. T. Putman as vice president; P. C. Graney, secretary-treasurer, and Hal M. Scott as assistant secretary. The Executive Committee was named as follows: A. W. Laing, vice president, McAlpin Coal Co.; L. T. Putman, general superintendent, Raleigh-Wyoming Coal Co.; E. C. Minter, president, E. C. Minter Coal Co.; W. F. Tams, general manager, Gulf Smokeless Coal Co.; S. Austin Caperton, general manager, Slab Fork Coal Co.; W. A. Richards, president, Pemberton Coal & Coke Co.; L. Epperly, president, Winding Gulf Colliery Co.; J. B. Clifton, president, Lillybrook Coal Co.; and P. C. Graney, general manager, C. C. B. Smokeless Coal Co.

H. D. CHAMBERLAIN, for many years comptroller of the Hudson Coal Company, died January 30 in Memorial Hospital, New York City. Mr. Chamberlain represented the anthracite industry on the executive tax committee of the American Mining Congress.

WM. G. CAPERTON, vice president, Slab Fork Coal Co., was reelected president of the Smokeless Coal Operators Association of West Virginia at its annual meeting December 13 in New York City. The following officers were also reelected: R. H. Knodel, president, Stonega Coke & Coal Co., and E. C. Page, president, Crozer Coal & Coke Co., vice presidents; H. R. Hawthorne, vice president, Pocahontas Fuel Co., treasurer; and Holly Stover, Washington, D. C., secretary.

EWARD GRAFF, general manager, New River Company, was elected president of the New River Operators Association in annual meeting December 11, Mt. Hope, W. Va. The Advisory Board of the Association is as follows: S. A. Scott, Mt. Hope, W. Va., and A. A. Liggett, vice president, Raleigh Coal & Coke Co. The board is composed of R. H. Gross and William G. Caperton. Members of the Executive Committee are R. H. Morris, general manager, Gauley Mountain Coal Co., and Gilbert Smith.

A REVOLUTIONARY new type of electric motor, which utilizes a "stationary commutator" and has the characteristics of a series-type d-c machine but which operates from an a-c power source, has been developed by E. F. W. Alexanderson, consulting engineer of the General Electric Company. Known as a "Thyratron" motor, the new development is made possible by recent advances in the application of electron tubes. Announcement was made in a paper by Dr. Alexanderson and A. H. Mittag, also of the General Electric Company, which was discussed on January 24 at the A. I. E. winter convention in New York City.

Among the noteworthy features of this motor are the following:

(1) While running from alternating current, the motor has the characteristics of a series-type direct current machine.

(2) The speed of the motor is independent of the frequency of the power supply.

(3) Smooth control of the speed can be obtained over the full range.

(4) In event of a momentary interruption of the supply circuit, the motor will, upon the restoration of power, start and return to the speed at which it was previously operating, without drawing excessive current from the line.

(5) The efficiency is high and the efficiency curve relatively flat—a distinct advantage, particularly in the lower portion of the speed range.

Because of these characteristics, motors of this type are applicable to such auxiliaries as fans, centrifugal pumps, compressors, and similar equipment having load characteristics such that the series type of motor can be used to advantage.

Report of Tax Committee

The American Mining Congress

By H. B. FERNALD *

IN SUBMITTING this report of the Tax Committee of The American Mining Congress I shall speak principally of the problems which have been before it or which seem pending and only incidentally of the work of the Committee.

As regards Federal taxation the mining industry has been deeply concerned that Federal tax legislation should not deal unfairly with it, either as to its own particular problems or as to those which it shares with other industry. We have urged that taxation should not be such as would place on industry a burden which would crush or discourage it, impeding the recovery we need, or even defeating the revenue ends of taxation. We do not want to see arbitrary and unfair methods of taxation applied which might make the tax load fall with undue severity on some, or which might make the weight of taxation turn business from normal and proper channels or methods, with resulting detriment both to industry and to Government revenues. I think we are coming to see that we cannot have employment without employers; that money which goes for taxes is not available for our payroll or purchases; and that drastic taxation removes incentive from the employer and investor.

Yet we have been and are in a time of demand for the imposition of the maximum tax burden which it is possible to impose. Perhaps the most we can ask is that it shall not pass the point of productivity or entail disastrous economic consequences. This, at least, we are justified in asking.

If we could feel assurance today that the tax burden would be such and would be so administered as not to cripple or discourage industry or retard recovery, and that the tax burden would be equitably borne by all, we could all go ahead with a much greater spirit of confidence.

There has been a general spirit of overturning all that has been done in the past. Innumerable proposals of almost every kind have been made for remedying real or fancied defects and using revenue legislation for various and

sundry purposes other than the raising of revenue. It has been impossible for any person or group to give adequate consideration to them all, and make adequate presentation of all the fallacies or inequities presented. The most that it has seemed could be done was to try to meet the most grievous and inequitable proposals which there seemed most dangerous of having enacted.

Unfortunately there has been too little understanding of the technicalities of taxation and of the economic and business effect of various tax measures. Many seem to forget that incomes cannot be taxed unless incomes are produced and that incomes will not be produced in the necessary volume except by the eager and effective efforts of taxpayers in producing them. It does not require active taxpayers' opposition to defeat the revenues; mere lassitude is sufficient. This is the reason why many apparently brilliant ideas for raising revenue, for "closing loopholes," for "tightening up" our revenue laws, have been and necessarily will be failures as revenue measures. They may serve to express a feeling of indignation or resentment against taxpayers who do not pay what some may feel should be paid, but they are not successful revenue measures if, to penalize a few, they deal unfairly with the many, or if, by trying to impose an impossible burden, they block or prevent the transactions which might yield substantial revenues at lower rates.

Our legislators and revenue authorities know this, but they do not always recognize clearly the extent to which various proposals made may carry these tendencies to defeat the revenues. We have tried as we could to point out these tendencies when they seemed otherwise to be overlooked.

Fortunately, there have been in Congress many legislators with a keen understanding of mining problems and a deep interest in the welfare of the mining industry of their home States, who would not intentionally see any tax policies adopted which would discourage or impede the progress of the industry on which in many cases the welfare of their

States depended. I believe there are none of them who would intentionally take any other course. They have been effective in insisting that mining should not be denied proper deductions for depletion or other proper operating charges.

The subject of depletion has been extensively and publicly discussed in the past. While it is not a simple matter to determine exactly how the undoubtedly fact of depletion can best be measured for income tax purposes, I believe Congress feels that the present provisions are essentially fair and equitable and should be continued.

As to the work of your Committee, with respect to possible revenue legislation, it may be summarized as the attempt to see the nature and effect of various legislative proposals which may be made, and then, as it reasonably and properly may, to bring to the attention of the legislators, the revenue authorities and the taxpayers of the mining industry those features which are particularly unfair and injurious either to the mining industry in itself or to the mining industry as part of the general body of taxpayers.

A second feature of the work of the Tax Committee has been and is the attempt to see that the regulations and decisions of the Bureau are fair and equitable and in accord with the spirit and intent of the law insofar as they affect the mining industry.

Generally action must be left to individual taxpayers or groups of them. Only where it appears that rulings, decisions or procedure will generally have a material effect on the industry and where the Committee as such can better and more effectively present the matter than could be done by individual taxpayers does it seem necessary and appropriate that the Committee should try to act. Furthermore, the extent of the ground to be covered makes it impossible for the Committee to do more than take a comparatively few items of outstanding importance.

Of course, nothing which this Committee does can take from any taxpayer his independent right to make his own presentation before the Bureau or in the courts of any rights which he believes

* Loomis, Suffern & Fernald.
† Chairman, National Tax Committee, The American Mining Congress.

he has in any tax question. We cannot and should not try to take the place of the legal and accounting advisers taxpayers need and should have. However, a center of discussion, to get the proper and consistent interpretations of the law insofar as the Committee could help through its own efforts or as furnishing as applied to the mining industry, thus avoiding a multiplicity of disputes, this has seemed a desirable feature of its work.

In our discussions we have tried to meet the Bureau in a spirit of fairness and frankness, and we believe we have succeeded in retaining the confidence of Treasury Department officials. They have seemed willing reasonably to take matters up with us in this way since it has contributed to the sound and proper administration of the law and prevented unnecessary litigation, all of which has been as much to the advantage of the Government as to the taxpayers.

Certain special features of the past year may be rather briefly summarized as follows:

1. The Revenue Act of 1934:

A year ago the question of new revenue legislation was under consideration preparatory to enacting what would be the Revenue Act of 1934. The new administration was under tremendous pressure to raise revenues to help meet its immense spending program. Cases had been brought to light of tax evasion or tax avoidance which, because popular sentiment greatly exaggerated their relation to the general revenue problem, gave rise to wide demands for closing loopholes in the law and administration which made avoidance possible or which failed to detect evasions.

The House Committee on Ways and Means had appointed a sub-committee "to investigate methods of preventing evasion and avoidance of the internal revenue laws, to consider means of improving and simplifying such laws, and to study possible new sources of revenue." This subcommittee had presented on December 4, 1933, its preliminary report which proposed many changes in the law.

There were extended hearings both by the House Committee on Ways and Means and by the Senate Committee on Finance, and with various modifications and changes (in which, generally, I believe, the members of the sub-committee concurred), the bill was finally enacted into the Revenue Act of 1934.

I shall comment on only a few particular features:

(a) Depreciation and Depletion:

The sub-committee had recommended an arbitrary 25 percent reduction in depreciation and depletion allowance for the three years, 1934, 1935 and 1936. The Treasury expressed doubt of the constitutionality of any such arbitrary reduction and also urged that it would be unfair since—

"The depreciation and depletion deductions are intended to remove from gross income such amounts as in fact represent a return to the



H. B. Fernald

taxpayer of a portion of his capital investment. If no such deduction is allowed, the taxpayer can contend with much force that he is in reality subjected to a capital tax in the guise of an income tax. Deductions for depreciation and depletion are fundamentally the same in character as deductions for the cost of goods sold in the case of a merchant."

Your Committee naturally opposed any proposal to allow only 75 percent of a reasonable allowance for depreciation or depletion as being on its face unsound and unfair.

In the Committee hearings it was stated that many instances had been brought to the attention of the Committee in which it appeared taxpayers had been allowed depreciation of more than 100 percent of the cost of the property and that otherwise depreciation allowances had been excessive, and that to prevent these as well as to raise additional revenues during the ensuing three-year period the Committee had made its proposal. In the end the Committee accepted the Treasury's assurance that it would take effective administrative steps to prevent, as far as it could, any excessive allowances such as apparently had, to some extent, been allowed in the past. Accordingly no change was made in the depreciation provisions and depletion provisions were left substantially the same except that the taxpayer was given a new election as between percentage or unit depletion (for metal, sulphur, or coal mines), to be made in submitting the first return under the new Act.

(b) Consolidated Returns:

The sub-committee proposed to abolish consolidated returns. The Treasury urged their continuance, as did your Committee and other taxpayers' representatives. Both the House Committee

on Ways and Means and the Senate Committee on Finance were satisfied that consolidated returns should be continued and they were so retained in the bill, until at the last moment on the floor of the Senate, in a wave of criticism against holding companies, with references made to the Krueger and Insull cases, the consolidated return provision, except for railroads, was eliminated.

(c) Dividends out of Pre-March 1, 1913 Earnings:

The sub-committee recommended that these be eliminated, but in the end Congress concurred with the taxpayers' presentations of the fairness of these provisions and they were continued virtually unchanged in the Act.

(d) Foreign Tax Credit:

The sub-committee had recommended that this provision be eliminated. The Treasury recommended that it be continued and Congress was satisfied it was correct and agreed to continue it in the law.

(e) Sale of Mines and Oil or Gas Wells:

The sub-committee recommended that this special provision, limiting to 16 percent of the selling price the tax in case of sales of oil or gas wells under special conditions should be eliminated, particularly in view of the general provisions now made as to taxation of capital gains, and it was so enacted.

(f) Exchanges and Reorganizations:

The sub-committee had recommended that these provisions of Section 112 should be wholly abolished. After much debate and discussion certain minor changes were made in the provisions but they were in general continued, with recognition that some such provisions were essential if reorganizations and exchanges of property were not to be generally blocked by excessive tax rates.

(g) Capital Gains and Losses:

A new plan for taxation of capital gains and losses was proposed. It involved a graduated scale (instead of the flat 12½ percent which had previously applied to capital assets owned for more than two years) as well as new definitions. While in the higher brackets the new schedule is probably so high that it may serve to block transactions which at a more moderate rate would be consummated, this was not so serious as is the provision that losses on sales of capital assets should be allowable only as a deduction from capital gains in the same year. There was much criticism of this latter point before the committee but, nevertheless, Congress included this provision with slight modification in the law as enacted.

The unfairness of this provision to take gains, but disallow losses unless the losses happen to be sustained in the same year that gains are realized, is probably not such a serious argument against it as the economic results which it apparently has had and will have. There is little incentive for a man to go into new enterprises with the knowledge that

if they are successful the Government will take a large part of the profits whereas if they are unsuccessful he must himself stand the loss.

Apparently its enactment was in part motivated by the then popular thought that one of the troubles in this country was that there had been too much development, particularly in construction and heavy industries and that it would be desirable to suppress that and discourage new business developments. We seem now to have passed that stage of thought and come to recognize that we cannot hope to solve the unemployment situation except by real development of new construction and new lines of employment. Perhaps we may then hope that Congress, recognizing this, will see the wisdom of removing this obstructive tax provision.

(h) *Personal Holding Companies:*

In the wave of criticism against holding companies and particularly against the so-called "incorporated pocketbook," the committee recommended a drastic penalty tax against so-called "personal holding companies" as defined in the law. Considerable changes were made in the provision as it was finally passed, eliminating the word "rents" and in other ways making the provision less drastic. Nevertheless, it still is a provision under which legitimate and proper business corporations may find themselves suddenly and unexpectedly penalized because of conditions over which they have no control.

(i) *Rates of Surtaxes:*

While as to rates the mining industry stands on the same footing as others, yet the fact stands that the personal surtax rates as enacted seem to pass the point of productivity. At \$90,000 of income the 50 percent surtax rate applies, together with an additional 4 percent normal tax, running from that point up to a maximum 63 percent normal and surtax. It seems clear that where the Government will take more than one-half the income—particularly when this may be computed without regard to capital losses—there is not any great incentive for a man to engage in enterprises for the production of income. It certainly cannot be considered a measure calculated to stimulate increased business and employment.

The schedule of rates further increased the discrimination against corporate dividends by reducing the normal tax exemption to the stockholder to a 4 percent rate as contrasted with a 13% percent tax which the corporation pays at source. This 9% percent discrimination against corporate earnings contrasts with the original provisions of our income tax laws, which recognized the corporation tax as simply a tax paid at source, with an equal amount of normal tax exemption to the stockholder.

In justification of high rates much has been made of the high rates of British taxation, but this ignores the fact that the British system does not include capital gains in taxable income. Accordingly, while the British tax places high

rates on currently recurring incomes, etc., it does not have the paralyzing effect on business development which high rates have under our American law.

(j) *As to Interpretation and Administration:*

There were many other provisions in the law as passed which are far from desirable. Many of them are obscure and difficult, if not impossible, of practical interpretation and administration and many of them intending to clarify have simply further confused our already uncertain tax system. The Treasury regulations under it have not yet been issued after all these months.

Practically nothing has been done to improve the administrative system and we are still left with a system where secret rulings or decisions are encouraged, and where determinations may be and often are made in secret review by those who have never examined the taxpayers' accounts or before whom the taxpayer has never had opportunity to appear. The taxpayer may, under the law, be required to take appeal from determination of the Commissioner without knowing the reason for an asserted deficiency or even the items involved in it, and has the burden of proof placed on him to establish the correct amount of his tax. Granting all the courtesy which the Bureau is showing and has shown to taxpayers in according hearings and stating deficiencies, it is a defective system when these stand simply as matters of courtesy and not matters of duties of the Department and rights of the taxpayer. There seems to be too much of a disposition to think that the Treasury should go eagerly after this or that particular dollar which some one may conceive is owing to the Government, with too little consideration of a revenue system which shall yield the substantial revenues with the minimum bother and friction to taxpayers and minimum disturbance of desirable business development.

Both in rate schedules, substantive provisions and administrative measures the Revenue Act of 1934 leaves much improvement to be desired.

2. *Depreciation Allowances:*

While the Revenue Bill of 1934 was still pending before Congress, the Department on February 28, 1934, issued Treasury Decision 4422, amending Treasury Regulations under the Revenue Acts from 1921 to 1932, inclusive. This was not, and necessarily could not be a regulation applicable to the 1934 Act, which was not then passed. It could not carry the force of any new legislative intent, for clearly nothing which Congress was still to do in 1934 could affect the legislative intent which had attached to prior Acts when they were passed. We have here the question of propriety of now amending retroactively the regulations which for years existed while the law was repeatedly re-enacted in the same terms, which regulations were particularly referred to, with approval, by the Senate Finance Committee in its submission of the Rev-

enue Bill of 1932. At most, it would seem that the new regulation (amending Article 165 of Regulations 62, 65 and 69 and Article 205 of Regulations 74 and 77) should be considered only as procedural and not as making any substantive change in the provisions governing the basis and amount of depreciation allowances.

It seems quite difficult to determine just what is intended by this Treasury Decision 4422 and by Mimeograph 4170 (I. R. B. XIII-16, page 2), issued under date of April 4, 1934, setting forth the procedure to be followed under this Treasury Decision. Drastic wording is used,—as to placing the burden of proof on the taxpayer, requiring information "to establish the correctness" of the deduction, the facts to indicate "conclusively" that the deduction is not excessive, etc. The attitude taken by some revenue agents and other Bureau representatives has been most disturbing. Naturally, there were complaints and protests. To meet these the Bureau authorized a press release of October 25, 1934*, intended to explain the Bureau's attitude regarding these requirements. It stated in part:

"The Department desires that the provisions of T. D. 4422 be administered with the least possible effort and expense on the part of taxpayers and with this end in mind, three classes of taxpayers will not be required to furnish additional information with respect to the depreciation deductions in those income tax returns now under consideration. The three classes exempted are: (1) those taxpayers whose returns show net losses after appropriate adjustments; (2) those taxpayers whose returns indicate clearly that only reasonable amounts of depreciation have been claimed and, (3) those taxpayers whose returns indicate that the depreciation deduction is a very minor factor. All agents of the Bureau of Internal Revenue have been instructed to carefully examine income tax returns and related files before requesting taxpayers to file the information called for under the provisions of T. D. 4422 in order to obviate unnecessary expense on the part of taxpayers whose returns fall within these three classes. It is obvious, therefore, that taxpayers are not required to take any action at this time in connection with the requirements of T. D. 4422 unless specifically requested to do so by an agent of the Bureau of Internal Revenue."

Bureau representatives further state that T. D. 4422 and Mim. 4170 were never intended to have any meaning other than that expressed in this press release.*

It is a natural bureaucratic practice to state vigorously and drastically provisions which will run wholly in favor of arbitrary Bureau action, and then to reply to criticism by explaining that they never intended anything more than most

(Continued on page 61)

* Note: The substance of this press release has since been published as a Bureau decision, I. R. B. 2838, in Internal Revenue Bulletin XIII-52, of December 24, 1934.

Wheels of

Government



FEVERISH excitement characterizes Washington this month. The town is full to overflowing with fledgling and old-time Congressmen and Senators, Government executives and employees, industry en masse—with here and there a convention for good measure. The convening of the Seventy-fourth Congress is by all odds the high-light of the month, not only because of its natural importance but also because it is the first session under the new congressional fiscal policy of January sessions, and because of the magnitude of the matters which it is common knowledge will be presented to it and considered by it. Whatever the conjectures were as to possible legislative proposals, even the worst has been outdone, as evidenced by the bills now in the hopper. This Congress is talking in thousands of millions, and unquestionably will appropriate many, many billions—certainly more billions than any of us can comprehend, and many, many more than we can ever expect to own or pay.

Headline hunters find Washington a Paradise, or, as one able cartoonist put it, a Bagdad on the Potomac. Here are a few that lead the way: Social security . . . the Townsend plan . . . the World Court . . . four billion eight hundred millions for public works program . . . the bonus . . . the American people are now paying one-fifth of the national income in taxes. . . . The Supreme Court wrestles with the validity of the gold clause in public and private contracts. . . . Both House and Senate prepare to push through with utmost speed administration's program. . . .

This session of Congress did not set a record for the introduction of bills, but it was a runner-up to the record performance of the last session of the Seventy-third Congress. Thirty-five hundred bills were introduced on January 2, the opening day of the Seventy-fourth Congress, and since that time to date (January 24) 2,666 bills have been introduced, making a total of 6,166 bills.

In addition, the President presented his message and still later his special message on social security. Early in the session he sent some 3,800 executive nominations for confirmation by the Senate.

Everything points to a session of Con-

gress that will go down in history as one of the most important. The national budget calls for expenditures during the coming fiscal year of eight and one-half billions. Since 1932 there has been spent for all emergency purposes nearly fourteen billion dollars.

Of vast importance are the President's social security proposals, involving an expenditure of ninety-eight millions the first year and two hundred eighteen millions the following years. The four billion eight hundred millions asked for by the President for public works projects, and estimated to employ some three and one-half million men, is another breathtaking proposal.

Agitation for the 30-hour work week is rampant. Two bills are now before Congress. These are the Black bill in the Senate and the Connery bill in the House. The Black bill, in a similar form, passed the Senate in the last session of the Seventy-third Congress. Although the administration is not sponsoring this legislation, there is considerable power back of it. A survey of the House indicates that a substantial majority of the members are in favor of this legislation. In the Senate a very large percentage are definitely in favor of the proposal.

While things are rolling merrily along on Capitol Hill, the rest of Washington is far from dozing. The Supreme Court has had before it, among many other important questions, the constitutionality of the gold clause, and decision is awaited with deep anxiety.

Government departments have been exceedingly active. The NRA had before it the bituminous coal crowd, as well as numerous other groups, and the decisions and rulings and news emanating from this course would fill a good-sized library.

The President's Committee on the National Resources Board has made its recommendations to the President. These are included in this issue of the JOURNAL and cover a wide field of endeavor. The complete report of the Planning Committee for Mineral Policy contains 60 pages and proposes a long-range admin-

istration plan, with concrete recommendations for a mineral policy of the Government.

High pressure is expected in regard to the Wagner-Lewis bill, embodying the President's ideas upon social security. All of the weight of the administration will be thrown behind this legislation. Cooperation of the state legislatures is necessary in enacting this legislation, and many state legislatures are through by March 1. Hearings on the bill began January 22. Both the Senate Finance Committee and the House Ways and Means Committee are expected to report the bill out substantially as written. Many efforts will be made to tack on radical proposals, such as the Townsend idea, but it is thought that the administration will be able to hold the line and get the bill out substantially as they desire it.

Bills directly affecting mining so far introduced are: A measure amending section 2357 of the Revised Statutes to provide for the location of lands in the vicinity of mining lodes as mill sites and for the eventual purchases of site not exceeding 20 acres in extent at not more than \$5 per acre (S. 575; Borah, Idaho); a bill (H. R. 1896) by Ayers (Mont.) again providing for suspension of assessment work during 1935; a bill (H. R. 1999) by Pierce (Oreg.) amending the statutes to make mandatory the placing of covers or barriers over all shafts, tunnels, drifts, winzes, etc., to protect stock; a measure (H. R. 2077) by Vinson (Ga.) amending the War Minerals Act to provide a \$1,250,000 payment for war claims; a bill (S. 393) by Senator King (Utah) providing for the establishment of a Bureau of Mines research station at Salt Lake City; H. R. 3002, Scrugham (Nev.) providing RFC loans for developments of gold and silver deposits; and the Senator Wheeler (Mont.) amendment to the independent offices appropriation bill to provide \$20,000 for an assay office at Helena, Mont.

A summary of important bills now before Congress and proposals in the state legislatures, which are of importance to the mining industry, follows:

S. 77. *Old Age Security Act*—McGill (Dem., Kans.). Committee on Pensions. Providing for establishment of an "Old

Age Security Bureau" in the Department of Labor. To cooperate with state authorities in the administration of old age assistance. To recommend to the Treasurer of the United States allotments to states providing old age disbursements approved by the bureau, up to one-third of the amounts paid by the states as old age pensions.

S. 87. *Thirty - Hour Week* — Black (Dem., Ala.). Committee on the Judiciary. To prevent shipment in interstate commerce of articles and commodities in connection with which persons are employed more than five days per week or six hours per day. Exemptions only upon application to Secretary of Labor. Would extend six-hour day and five-day week to all codes under NIRA. *Prohibits reduction in daily, weekly, or monthly wage rate existing on date this bill becomes effective*, until opportunity afforded employees, through representatives of own choosing by majority vote, to consider such reduction.

S. 214. *Federal Unemployment Insurance Corporation*—Logan (Dem., Ky.). Committee on the Judiciary. Creates corporation with board of five directors vested with power to put into effect system of unemployment insurance. Provides for further boards in each state under the supervision and direction of such corporation. Four percentum of wages and salaries to provide revenue, one-half from employer and one-half from employee. Excludes farm laborers, domestic servants, and the professions.

S. 367. *Old Age Compensation*—Capper (Rep., Kans.). Committee on Pensions. Provides \$30 per month after 60 years of age. Revenue from levy of one-half of 1 percentum on salaries, earnings, incomes of all persons between the ages of 21 and 45.

S. 375. *Special Mexican Claims Commission*—King (Dem., Utah). Committee on Foreign Relations. Establishes a commission for the settlement of special claims covered by the convention between the United States and Mexico, concluded April 24, 1934.

S. 393. *Bureau of Mines Station, Salt Lake City, Utah*—King (Dem., Utah). Committee on Mines and Mining. Same bill as introduced in the seventy-third session and provides for establishment of a research station of the United States Bureau of Mines at Salt Lake City, Utah.

S. 415. *RFC Loans to Mining*—Pittman (Dem., Nev.). Committee on Banking and Currency. Amending Section 14 of Public, No. 417, Seventy-third Congress. Authorizes loans for purposes of development of gold and silver deposits.

S. 418. *Import Duties on Coal and Coke*—Davis (Rep., Pa.). Committee on Finance. Provides a duty of \$4 per 2,000 pounds upon coal, coke or coal or coke briquettes.

S. 487. *Purchase Surplus Copper*—Ashurst (Dem., Ariz.). Committee on Mines and Mining. Provides for appropriation of \$200,000,000 for purchase in the open market of surplus copper metal produced from ores mined within the United States.

S. 575. *Location of Federal Domain Surface for Mining* — Borah (Rep., Idaho). Committee on Mines and Mining. Amending the Mining Act of May 10, 1872 as amended; permitting locations on the Federal domain in vicinity of mining districts for mill sites or any enterprise necessary to mining, including landing fields and airports. Requirement of \$1 per acre per year to apply on purchase price of land, which shall not exceed \$5 per acre in total.

S. 853. *Regulation of Petroleum Production*—Connally (Dem., Tex.). Committee on Mines and Mining. Defining "illegal petroleum" as crude petroleum or its derivatives handled in violation of any state or Federal law, order, rule or regulation prescribed under this act. Prohibits transportation of such "illegal petroleum" in interstate and foreign commerce; that the President may establish boards in areas where necessary to issue certificates of clearance for petroleum entering commerce. Each violation punishable by a fine of \$5,000 or imprisonment not to exceed 6 months or both. (Designed to remedy defect in Section 9 (c), NIRA, found by Supreme Court.)

S. 573. *Estopping Common Carriers From Transporting Products of Their Own Production*—Borah (Rep., Idaho). Committee on Interstate and Foreign Commerce. Amending Paragraph 8 of Section I, Interstate Commerce Act, by prohibiting after January 1, 1936, interstate or foreign transport of any article or commodity manufactured, mined or produced by common carriers or under their authority or which they may own in whole or in part or in which they may have any interest, direct or indirect, through stock ownership, or use, interlocking directors, or officers, or other lawful means.

S. 854. *Old Age Pensions* — Neely (Dem., W. Va.). Committee on Education and Labor. Authorizes Secretary of Labor to establish "Old Age Pension Bureau." Appropriates \$25,000,000 to be allotted to states complying with requirements of bureau. Minimum age, 63 years.

S. 858. *Regulation of Petroleum Production*—Connally (Dem., Tex.). Committee on Mines and Mining. Defines "illegal petroleum" as crude petroleum or its derivatives produced or handled in violation of any state law. (Words "or Federal" omitted.) Otherwise identical with S. 853.

S. 1130. *Wagner - Lewis "Economic Security Act"*—Wagner (Dem., N. Y.). Committee on Finance. Identical with H. R. 4142. Follows recommendations of President's Committee on Economic Security and provides for:

I. *Old Age Pensions*. This legislation is in three parts—

1. A national system of compulsory contributory old-age insurance, establishes "old-age fund" by a 1 percent payroll tax as of January 1, 1937, increasing each five years by 1 percent until as of January 1, 1957, it is 5 percent; one-

half of tax by employers and one-half deducted from wages of employees. Minimum age, 65 years. Pensions to equal 15 percent of average monthly wage of each employee who has been paying for 200 weeks and 1 percent additional for each 40 weeks over 200 and 2 percent additional for each 40 weeks over 400 weeks.

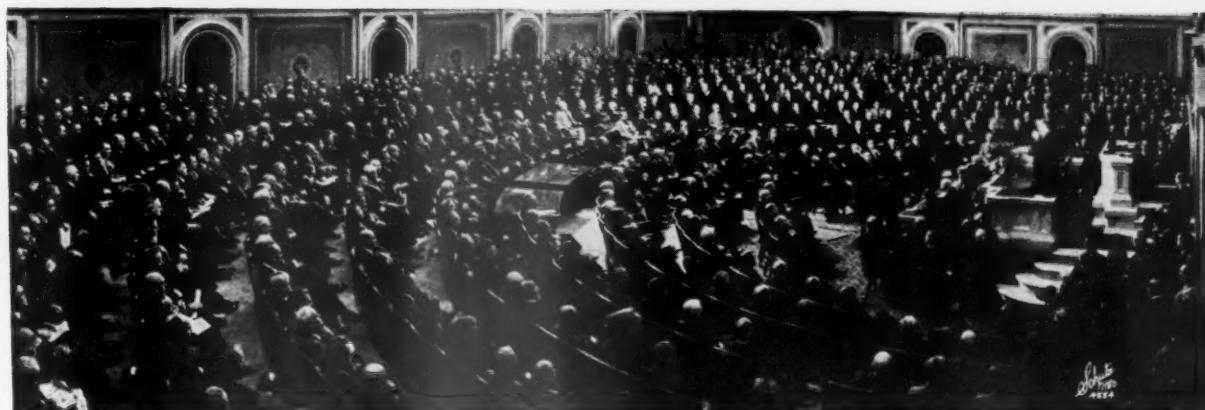
2. Federal subsidies to the states for old-age pensions (for aged who cannot be brought under insurance system); \$50,000,000 appropriated for fiscal year 1936 and \$125,000,000 annually thereafter. Yearly allotments made to each state in amount equal to what the state spends under plan approved by Federal administrator, with limit that Federal and state pension shall not total more than \$30 per month per individual.

3. Voluntary system of old-age annuities. Provides sale by Government to citizens under 65 years of age of annuity certificates with maturity value limit of \$9,000.

II. *Unemployment Insurance*. Encourages enactment of state compulsory unemployment insurance laws through exercise of the Federal taxing power and through subsidies to the states. Provides 1 percent tax on pay rolls until index of industrial production is above 84 percent of the 1923-1925 level; then 2 percent of pay rolls until 95 percent of such level; commencing January 1, 1938, 3 percent of pay rolls in any event. Employer is given credit for his contribution to an unemployment insurance fund under individual state law up to 90 percent of such tax. No employer to receive such credit unless the unemployment insurance law of his state meets certain provisions of the Federal act, among which is "that no worker shall be disqualified from receiving benefits because he participates in a strike or because he refuses to take work at standards below those prevailing in the locality, or because he refuses to join a company union or insists upon joining the labor union of his own choosing." All funds collected under state unemployment insurance laws must be deposited in an unemployment trust fund in the Treasury of the United States. Appropriates \$5,000,000 for fiscal year 1936 and \$50,000,000 annually thereafter, to encourage the administration of state unemployment insurance laws.

III. *Aid to Dependent Children*. Appropriates \$25,000,000 for fiscal year 1936 and annually thereafter, to be allotted among the states on an equal matching basis whenever state plans meet approval of the Federal Emergency Relief Administrator.

IV. *Federal Subsidies for Maternal and Child Health*. Appropriates \$4,000,000 for fiscal year 1936 and annually thereafter, to be apportioned among states mainly on a dollar-for-dollar basis for maternal and child health, care of crippled children, and aid to child-welfare service. Also \$10,000,000 per year for public health, of which \$2,000,000 for investigation and research by the Bureau of Public Health Service and remainder allotted among the states by the bureau upon the basis of need.



President Franklin D. Roosevelt Addressing the Seventy-fourth Congress of the United States

S. J. RES. 3. Regulating Hours, Wages and Production—Costigan (Dem., Colo.). Committee on the Judiciary. Proposing an amendment to the Constitution of the United States empowering Congress to regulate hours and conditions of labor and to establish minimum wages in any employment and to regulate production, industry, business, trade and commerce to prevent unfair methods and practices therein. Such amendment would remove limitations of the due process clauses of the Constitution with respect to such legislation.

S. J. RES. 25. Petroleum Amendment, N. I. R. A.—Gore (Dem., Okla.). Committee on Mines and Mining. Amending Section 9 of the National Industrial Recovery Act, making it unlawful to transport, offer for transportation, or receive in interstate or foreign commerce petroleum produced or withdrawn from storage in excess of that permitted by any state law or valid regulation or order prescribed by any State agency, and the products of such petroleum. (Designed to remedy defect in Section 9 (c), N.I.R.A., found by Supreme Court.)

S. J. Res. 26. Prohibition of Contraband Oil in Interstate Commerce—Gore (Dem., Okla.). Committee on Finance. January 10. Committee discharged and resolution referred to Committee on Mines and Mining, January 14. Defines "contraband (hot) oil." Provides that the President may, by proclamation, upon due finding of fact that a state law regulating production or withdrawal of oil is not an unreasonable restraint of commerce, prohibit shipment or transportation in interstate or foreign commerce of contraband oil from such state. May require certificates of clearance. Violation punishable by fine of \$10,000 or imprisonment one year, or both. Second or subsequent convictions prescribe imprisonment.

S. J. Res. 28. State Compacts Affecting Labor and Industries—Walsh (Dem., Mass.). Committee on Judiciary. Identical with H. J. Res. 43.

H. R. 2. Federal Commission to Stabilize Employment—Ludlow (Dem.,

Ind.). Committee on Labor. Provides for a Federal Industrial Commission to aid in the stabilization of employment in industry, agriculture and commerce. Shall make a report to Congress at least once each year including recommendations for legislation as deemed necessary.

H. R. 10. Unemployment and Social Insurance—Celler (Dem., N. Y.). Committee on Labor. Authorizes Secretary of Labor to provide for immediate establishment of a system of unemployment and social insurance for all workers and farmers unemployed through no fault of their own. Further provides "no worker shall be disqualified from the benefits of this Act because of refusal to work in place of strikers, at less than normal or trade union rates, unsafe or insanitary conditions, or where hours are longer than the prevailing union standards at the particular trades and locality or at any unreasonable distance from home."

H. R. 94. Depreciated Foreign Currencies—Ramsay (Dem., Va.). Committee on Ways and Means. To equalize the purchasing power of the American dollar when the same comes in competition with inflated foreign moneys and to fix duties on imports. Amends the Tariff Act of 1930 as follows: "That, in addition to all other import duties upon goods and merchandise imported into the United States of America from foreign nations, there shall be imposed upon such imports a duty equal to and equivalent to the difference between the value of the money of the nation where such imports are manufactured as compared in value with the dollar of the United States of America."

H. R. 170. Control of the Currency—Goldsborough (Dem., Md.). Committee on Banking and Currency. Creating a Federal Monetary Authority, having power, among other things, to buy and sell gold bullion, bars and coin in the free gold market at home or abroad. Further "The Monetary Authority is

hereby authorized and directed to purchase silver bullion at the rate of not less than 50 million ounces per month until there shall be added to the monetary resources of the United States one billion ounces of silver, or until purchasing power of 371.25 grains of silver shall equal purchasing power of 23.22 grains of gold. Silver to be purchased either here or abroad. Declares policy to restore purchasing power of dollar to 1926 bases.

H. R. 1402. Sale of Annuities to Citizens—Lewis (Dem., Md.). Committee on Ways and Means. To authorize Secretary of the Treasury to provide for sale of annuities to citizens of the United States in order to promote thrift. (Note in comparison with numerous old age pension bills).

H. R. 1403. Publicity of Regulations and Orders—Lewis (Dem., Md.). Committee on the Judiciary. Provides that all executive and administrative rules, regulations and orders, violation of which may result in civil or criminal liability, shall be filed with the Secretary of State and shall not be effective until five days after such filing. Shall become public records freely open to inspection by any citizen and shall be published in the same manner as the Acts of Congress.

H. R. 1424. Manufacturers Excise Tax—Treadway (Rep., Mass.). Committee on Ways and Means. Provides a general tax of 2½ percentum on all articles sold by the manufacturer or producer thereof, with exceptions designed to prevent pyramiding. Exempts original farm products, foods, wearing apparel, medicines and gasoline.

H. R. 1986. Suspension of Assessment Work—Ayers (Dem., Mont.). Committee on Mines and Mining. Same bill as enacted in 73rd Congress and provides for the suspension of assessment work on mining claims held by location in the United States and Alaska for the year ending July 1, 1935.

(Continued on page 59)

Mining Systems

in the Hocking Valley

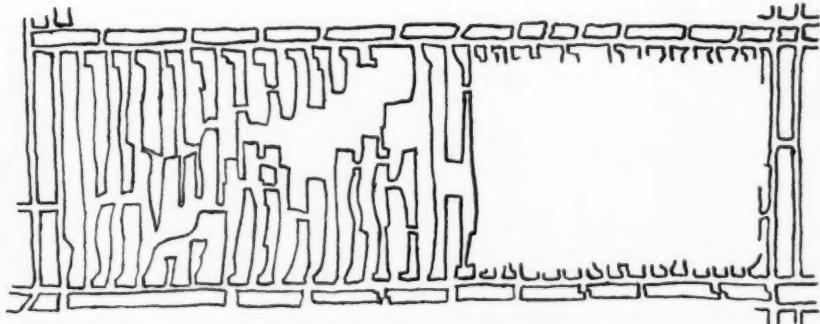
By FRANK G. SMITH*

THE mining system generally in use in the Hocking Valley coal field is unique, not because of its newness or unusual efficiency, but because of the fact that it is not only applied universally throughout the district with very slight variation, but it has been in use almost without change since the earliest years of the development of this field.

Being an old field, the Hocking District had reached a fairly high degree of development by the beginning of the eighties and was then an important factor in the coal production of the country. The then chief mine inspector for Ohio, Andrew Roy, writing for the Geological Survey of Ohio criticized the field severely for its adherence to a single entry, room and pillar method of mining. However, such mine maps as have been available to the writer indicate the change to double entry work during the middle of that decade. The system introduced at that time did not vary greatly from the old single entry plan of mining, and is in most respects identical with the system in use at present. In Figures I and II the similarity may be seen. Both sketches are taken from actual mine maps. Almost without exception, the old maps show 250-foot rooms turned, 42-foot center to center at right angles to the butt entries and driven as wide as top conditions would permit. Generally this resulted in rooms from 25 to 30 feet wide. Entries also were turned on 42-foot centers.

In virtually all active mines in the district rooms and entries are driven in the same manner today. One notable exception is Mine No. 6 of the Sunday Creek Coal Company, where top cutting machines are in use, permitting rooms only 22 feet in width. Here the rooms are turned on 34-foot centers, leaving the customary 12-foot pillars between. Mainly, the differences between the present system and the old system lie in the provision for larger barrier pillars along main haulways and aircourses. Moreover, entries and rooms are driven more nearly on line and in that respect mining practice is considerably more efficient.

* Assistant General Superintendent, Sunday Creek Coal Co.



Panel driven between 1883-1892

Except in a few instances the Hocking seam is not gassy and for that reason, no problems of ventilation have affected the system of mining in use. Mechanization, having been prevented by the physical condition of the seam and the financial condition of the operating companies, has also had little or no effect upon the plan of mining. Because of the domestic market for the coal, it has been necessary to produce the greatest possible amount of lump coal and for that reason all rooms are driven on the face of the coal or practically north and south. While the directions of the facings in the Hocking seam change slightly in different parts of the district, they are surprisingly uniform, running about 20 degrees west of north in most cases. The dip of the seam (south and east, 35 feet per mile) while not great would be sufficient to give some force to an argument for turning rooms in only one direction from butt entries in order to facilitate drainage. As a general rule, however, the mines are relatively dry and even in cases where there is an abundance of water present, the cost of driving entry under Hocking wage agreements is sufficient to prevent any such departure from the existing systems.

In the 100 to 200-foot barrier pillars left along main haulways, rooms of normal width and on the usual centers are driven on retreat. On the other hand, room pillars and chain pillars are not recovered except in a few instances.

Formerly, the recovery of room and entry pillars was practiced to a large extent, but in late years, over the whole of the district pillar recovery has been negligible. The result of the system used and the failure to recover pillars has been a yield of somewhere between 60 and 75 percent of the minable coal. In all probability, most present day operations would fall in a class close to the lower figure.

From the foregoing, it might be inferred that the Southern Ohio coal fields were suffering from the use of an inefficient system of mining and lacked sufficient initiative to correct a situation which has existed for some 50 years. Such, however, is by no means the case. The system as practiced in the Hocking Valley not only permits the recovery of pillars, but were such pillar recovery to be carried to its logical conclusion, a very high percentage of recovery of the minable coal would be possible. This fact is clearly demonstrated by the experience in the mines operating in this field during the height of its development preceding the World War. The old Jobs mine, famous for its large tonnage, was able to recover most of the coal in its territory. Such, also was the case with the mines owned by the old Columbus, Hocking Coal and Iron Company, now extinct.

Naturally, the question arises as to the reason for the relatively poor showing made by modern operations in this

district. With improved engineering practice and more modern mining methods it would seem only reasonable to expect at least as high a recovery figure as before. There are, however, certain influences which have come into being in the markets as well as the mining conditions in this field. They have not only made it impossible to keep up the recovery of pillars as in the past, but they have in no wise changed the conditions making the use of the old system advisable.

The main factors making any change or improvement in the Hocking Valley mining system impossible may be divided roughly into two classes. These for simplicity and want of better terms may be called "hereditary" and "environmental."

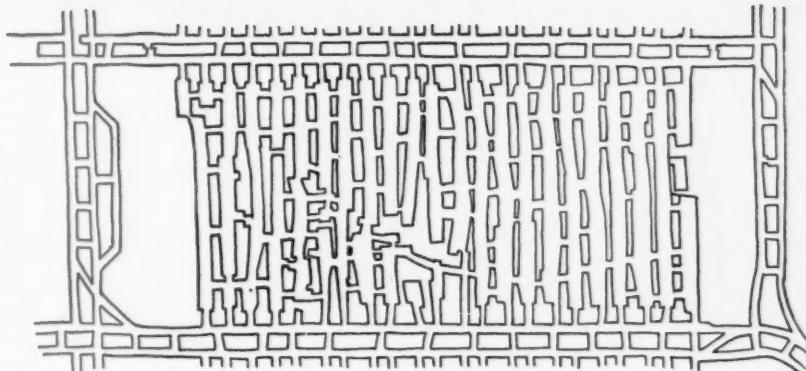
From an hereditary standpoint, it would be natural for any change in mining practice to be slow in coming about. Even if it were possible to make any change in the system, the length of time during which the present plan of mining has been in force has been sufficient to make it become a habit.

More important than any of the foregoing is the coal land "inherited" by the present companies from their predecessors. In the early days of the history of the Hocking district, practically all of the coal mined was owned in fee by the operating companies. In recent years, however, mining camps have practically disappeared from Southern Ohio. In their places have sprung up free towns. When work became more irregular, more and more of the miners bought small farms with the result that much of the surface property is not owned by the mining companies. While a large portion of it is sub-marginal, it is of sufficient value to permit some farming. For this reason practically all of the present day companies find it necessary to leave sufficient pillars in mines to prevent any disturbance of the surface.

When surface disturbance occurs it is invariably the cause of costly litigation. It is a certain fact that if the companies mining coal in the Hocking Valley today owned the surface overlying their coal more pillars would be recovered.

Another deterrent to the recovery of pillar coal arises out of the fact that many of the mines are operating in leased coal. Some of the older land owning companies have passed entirely out of active operation, being content to lease coal to others. These lessee companies are under little compulsion to recover pillars other than the larger barrier pillars.

The "environment"—the market and mining conditions—too, have undergone a very definite change. The Hocking seam (Middle Kittanning) ranges from $4\frac{1}{2}$ to 14 feet in height. Most of the thick coal is gone and only one mine of any consequence is left operating in coal over $6\frac{1}{2}$ feet in height. Furthermore, the coal being mined today not only lies deeper, but presents more difficulties from the standpoint of top conditions. Much of the immediate roof is soft soapstone requiring considerable timbering. Coupled with this is the fact that markets are mainly domestic and work is



Panel driven in last five years

extremely slow in summer months. Working places, then, must necessarily have a longer life. Hence, in order to hold the top, pillars of sufficient size must be left in advancing work. Because of the partings in the seam and the difficulty of mining it, mechanization has never progressed to any extent and hand loading is universal. The result is that work cannot be concentrated to any extent and the slowness with which places work out is further aggravated. Finally, the occurrence of slips, clay veins, and small local faults is more frequent than was the case in the coal formerly mined.

With the loss of markets following the war, strikes and other factors beyond the control of the operators of the district, it became increasingly impossible

to modernize equipment and in some quarters the "Hocking" is still looked upon as a breast machine field. However, developments of the past few years indicate that modernization of existing plants has been progressing and will continue in the future. This, however, does not mean that it will be possible to increase recovery materially. It does mean, on the other hand, that there will be some modification of the mining system of the district.

Unless there is a very great change in market conditions and in the condition of the seam in newer territories as well as the conditions of ownership, the present system of mining will continue to yield a low recovery of coal and will continue to be best suited to the mining of coal in Southern Ohio.

THE Logan Engineering Company, 4541 Ravenswood Avenue, Chicago, Ill., announces their Hoist Controller business, conducted the past 16 years under the management of Mr. H. H. Logan, through the Duro Metal Products Company, has grown to such an extent that it is necessary to form a new company to specialize in "Lilly" and "Simplex" Hoist Controllers, "Logan" Hoist Recorders, and other specialties of a similar character, particularly for the mining industry.

The personnel of the new organization follows:

Henry H. Logan, president and general manager. For many years connected with the mining field, and for the past 16 years managing, designing, developing and engineering "Lilly" hoist controllers and auxiliary equipment, mine hoist records, etc.

Oscar W. Lilliedahl, first vice-president and chief engineer. For 15 years in the engineering department of the Nordberg Manufacturing Company, Milwaukee, as assistant to the chief draughtsman; and formerly with the National Brake & Electric Company, Milwaukee, as assistant chief engineer.

Rufus E. Hines, second vice-president and plant superintendent. For the past 12 years in charge of the manufacturing of "Lilly" and "Simplex" controllers, and

other equipment manufactured by the Duro Metal Products Company.

James I. McTaggart, secretary-treasurer and purchasing agent. For several years chief mine clerk for the Madison Coal Corporation, and having extensive experience in advertising, accounting and credits.

THE Griffin Wellpoint Corporation, Lincoln Bldg., New York City, announces a new and unusual wellpoint system, the outstanding features of which are:

(1) The "Jet 'n Drive" head, particularly adapted for use in the gravels, clay and hard subsoils which have been found practically impenetrable by ordinary jetting methods. The head is of the one ball design, permitting easier sinking and quicker cleaning without pulling.

(2) "Interflow," a distinctive Griffin feature, which is the arrangement of a water flow between the drainage channels to prevent their becoming blocked.

(3) Stream line construction, the well point having the same outside diameter as the oversize riser pipe, thus decreasing friction loss and insuring complete salvage, as head is strong enough to resist breaking when piping is pulled.

It is claimed that contractors who use the Griffin Jet 'n Drive wellpoint find it is always ready for service without constant pulling and cleaning.

Proposed Plan of Development, Jerome Mine, Hillman Coal and Coke Company

By A. E. SIEMON *

THE projection below shows the proposed plan of development, and method of working a large area of coal at a mine operating in the C' Seam, with an average of 40" of mineable coal, in Somerset County, Pennsylvania.

This area is to be developed by driving six main entries down the pitch. It is expected that the average grade on these main entries will be descending at the rate of 10 percent. Three of the main entries will be used as intake airways, of which one will be the main slope haul-

* Division General Superintendent.

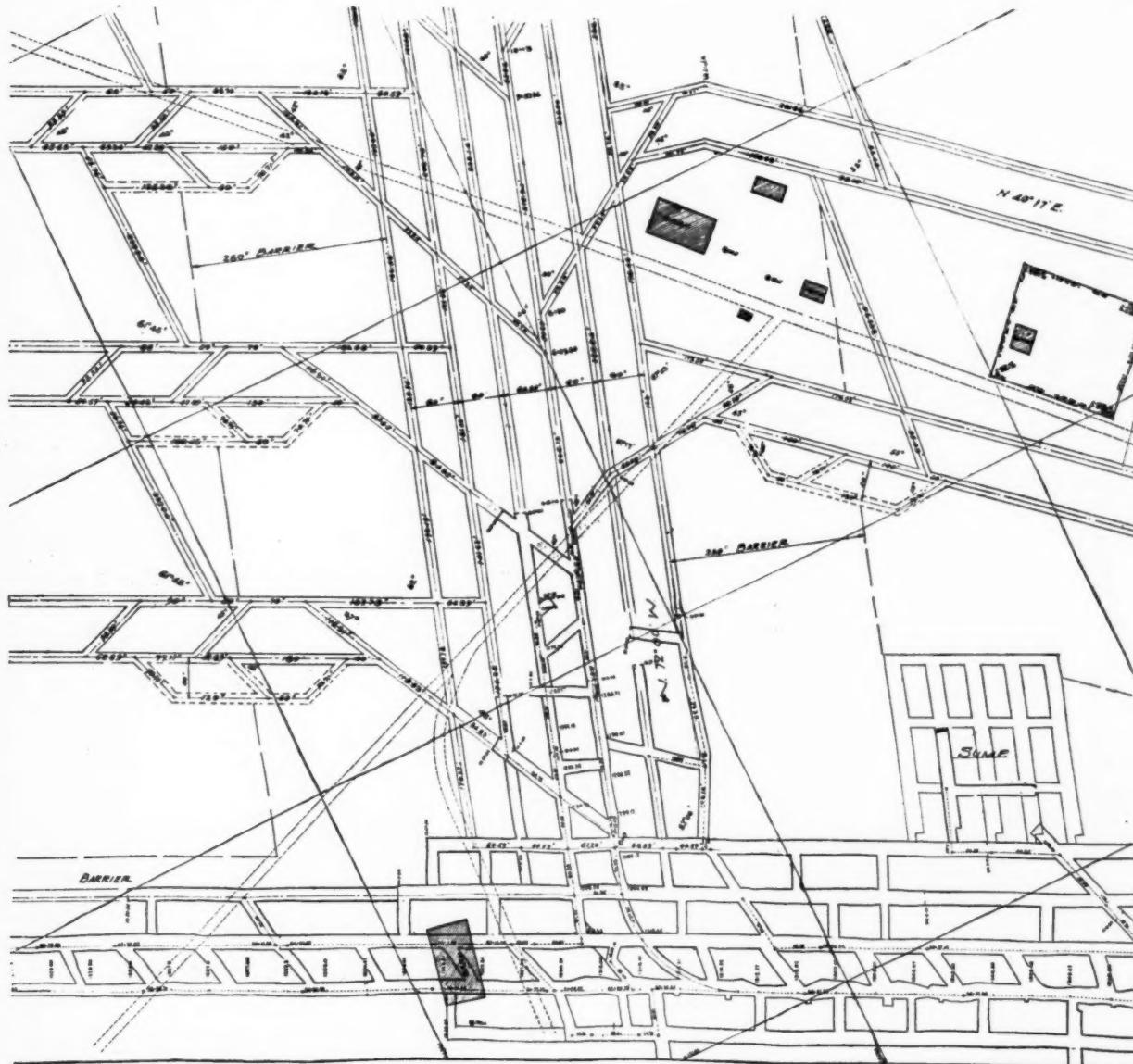
age road and one the traveling way. The other three main entries will be used as return airways.

Flat, or room entries will be driven, as shown on the projection, right and left off the main entries for a distance of approximately 2,000 feet in either direction. The room entries will be driven slightly to the rise off the main entries. Rooms will be driven up the pitch on 60-foot centers, 35 feet wide, leaving a 25-foot pillar that is taken out as soon as the room is finished. Conveyors are being used in developing the entries, and will be used in the rooms. Only one room on each entry is worked at any one

time, but all places, both entries and rooms, are worked two shifts.

Haulage on the main slope entries will be by means of a large electrically operated hoist, located at the top of the main slope entries. Haulage on the room entries will be by electric locomotives to the side tracks shown on the room entries, near the main slope entries, where trips will be made up to be hauled by the large slope hoist to a large sidetrack on the main flat entries at the top of the main slopes.

Haulage from the large side track on the main flat entries to the shaft bottom is by electric locomotives.



Method of Mining

A Thick Coal Bed in Eastern Utah[†]

By H. TOMLINSON*

THE coal lands worked by the mine under discussion are in the coking coal region of eastern Utah. The mine was opened and put into operation by the present company in 1923, since which time it has produced 2,151,519 tons of coal; therefore the quality and character of the coal bed are well known and established.

The Lower Sunnyside bed, which is being mined at this property, outcrops at an elevation of about 7,000 feet a. t., has an average thickness of about 12½ feet, and is free from partings.

Immediately above the coal bed is a bed of sandy shale, varying from 6 inches to 3 feet in thickness. This cap rock is strong and presents no difficult problem in handling. It is rarely exposed, except in pillar workings, when the top coal has been removed. In advanced working, from 4 to 5 feet of top coal are left to form the immediate roof all over the mine. Below the coal bed is a bed of bony coal about 5 inches thick, below which is a bed of sandstone several feet thick. The cover over the whole bed varies from 200 feet at the mouth of the mine and along the outcrop to 1,100 feet, with an approximate average of 600 feet over the present working faces.

PERCENTAGE OF COAL RECOVERED

It is estimated that due to the mining method employed, and continuity of operations, a total recovery of 90 percent is obtained from a given acreage.

ROOMS AND PILLARS

Rooms on 100-foot centers, 20 to 25 feet wide, are advanced on the strike of the coal bed from the panels, for a distance varying from 300 feet in hand-loading sections to 900 feet in mechan-

ical sections, to the barrier pillar of the adjoining panel.

In the mechanical-loading sections it is a practice to advance four of these rooms at one time, and four crosescuts 14 feet wide turned on 200-foot centers, which gives each mechanical loader eight working places in a district, as shown in Figure 1. When the rooms have been advanced for the required distance, room pillars are withdrawn in blocks of six, establishing a break line at right angles to the strike of the bed and retreating until a point 100 feet from the panel is reached.

Pick miners are used on this work, since it is not possible to cut pillar coal safely.

Top coal, which is 4 to 5 feet thick, is first withdrawn in the room for a distance of 40 to 50 feet back from the face, and the pillar is then removed.

MECHANICAL LOADING

Both hand loading and mechanical loading are practiced.

During the month under consideration for the period of this study, 11,195 tons of coal, or 26.75 percent of the total output, was loaded mechanically in 26 days by one Goodman shovel loader and one Sullivan loader, each averaging 215.3 tons per shift during this period.

* The Bureau of Mines will welcome reprinting of this paper, provided the following footnote acknowledgment is used: "Reprinted from U. S. Bureau of Mines Information Circular 6376."

† Mining engineer, mining division, U. S. Bureau of Mines.

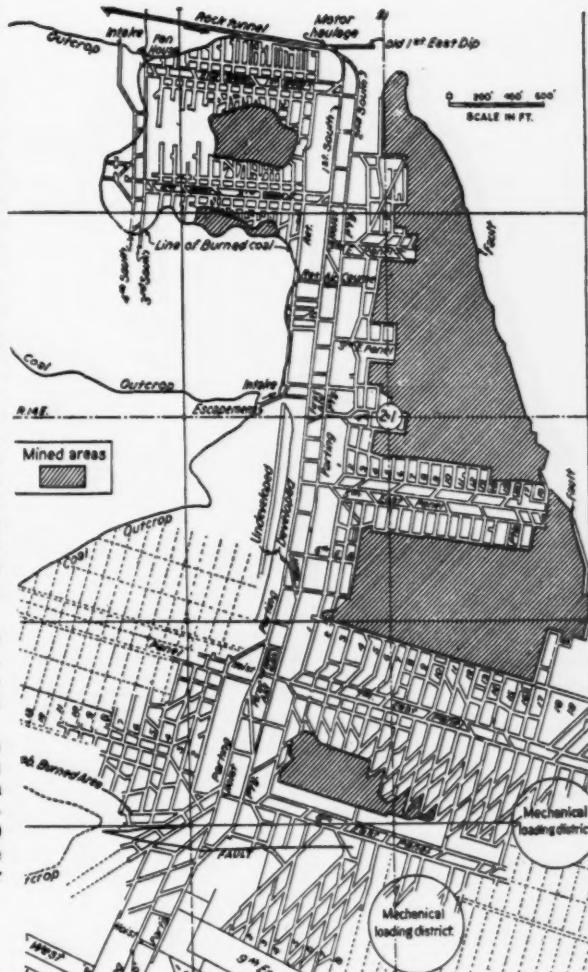


FIG. 1—Map of mine workings

HAND LOADING

During this period 24,433 tons of coal, or 58.39 percent of the output, were loaded by hand loaders. Also 6,220 tons, or 14.85 percent, was loaded under the name of "pick" coal; picking includes taking down top coal and pillar coal. (Continued on page 58)

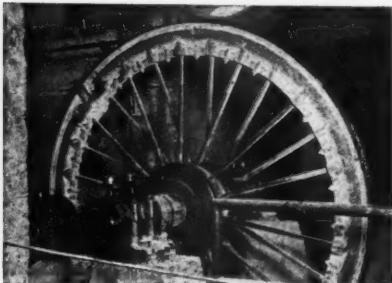
BOLLEN PULLEY HOIST

at MAGMA

By E. E. SLACK*

DUE to gradual deepening of the Magma Mine, No. 2 shaft hoisting equipment became inadequate to handle ore and waste from points below the 2,500 level.

In the early part of 1927, after a careful investigation of initial cost, operation, installation, and space requirements, a "Bollen Pulley Hoist" was pur-



Sheave over No. 2 Compartment

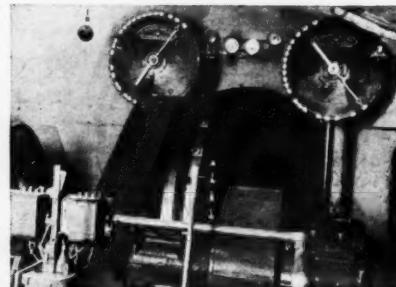
chased from the Nordberg Manufacturing Company. The hoist was scheduled to be in operation by January, 1928, but a very serious mine fire developed in November, 1927. The shaft, which originally was timbered almost the entire distance, was lost. This called for a complete new three compartment reinforced concrete shaft from the 215 level down to 170 feet below the 3,000 level. The shaft was widened six inches between wall plates, which gave additional length to the skip and cage platforms, calling for complete redesign of all cages and skip. Operation of the new hoist started in June, 1930.

The principal duty of the hoist is the handling of waste from the lower levels to the 1,900 level, where a movable skip dump is run out into the shaft and the waste deposited in pockets provided there. Waste can also be brought to the pockets above the 500 level and also ore to separate pockets above the 500 level, where it is transported to the mill or the smelter. The hoist also handles its share of men each shift along with the other working shafts.

The hoist is located underground on the 215 level, at right angles to the old

double drum hoist, in a new room or chamber especially cut out to suit the layout. This chamber and ground removal required about one-sixth the space that would be necessary for a double drum hoist of equivalent capacity. The ground at this point being heavy, many reinforced concrete supporting arches were necessary to support the roof. The ceiling is also reinforced and gunitized to prevent spalling.

This hoist is of the Bollen Pulley type, operating in balance with counter weights. The main shaft supports the Bollen Pulley and the main gear ring of the second reduction, this gear ring being bolted directly to the Bollen Pulley. The pinion of the second reduction is mounted on the intermediate shaft. On this shaft is also mounted the gear for the first reduction and the brake ring for the service brake of the post brake type. The pinion shaft of the first reduction is coupled to the motor through a flexible coupling.



Looking toward shaft from operator's platform

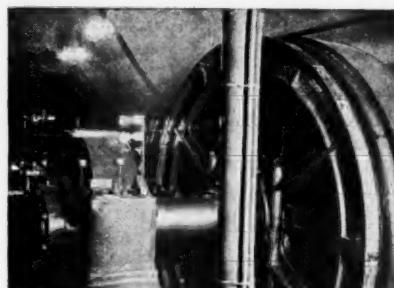
The Bollen Pulley consists of two discs, one of which is keyed to the shaft, the other being able to oscillate around a ball joint on the hub of the keyed disc. The two discs are provided with alternate taper jaws, these jaws supporting a wedge ring upon which the rope rests. The pressure of the rope upon the wedge ring tends to press the two discs together on part of the circumference, thus causing the rope to be gripped between the two discs; the taper in turn is determined by the load on the rope; the gripping of the rope is determined by the

taper of the wedge ring. Thus, the gripping effort will never be greater than the pressure caused by the load on the rope, and the rope will not be deformed by the gripping. The wedge ring is made of forged steel and the grip ring of material softer than the rope material. Shims are provided for the grip rings which are removable and which require close inspection.

The hoist has a parallel motion gravity operated post brake operated by a plunger type single acting thrust cylinder and using oil under pressure from two motor driven gear pumps. Oil to the cylinder for braking is controlled by the operating lever from the operator's platform by means of a floating lever whereby a close regulation of the brake is obtained. The brake may be applied gradually or as rapidly as desired.

For safety the hoist is fitted with a Lilly Controller of model "D" type with a man safety attachment. Whenever the safety stop acts, it will open the solenoid circuit and shut off the power from the motor for any one of the following reasons:

1. In case the hoist speed exceeds normal at any point.
2. In case the operator fails to slow down the hoist at any predetermined and adjusted point and fails to continue to slow down between this point and the landing level.
3. In case of overwind.
4. In case operator fails to reverse the hoist after skip has reached the landing or limit of travel.
5. In case power goes off the line for any cause.



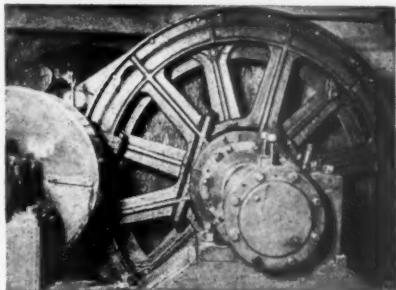
Looking toward hoist from shaft

* Mechanical Engineer, Magma Copper Co.

Whenever the safety stop acts, the brake is gradually applied without serious shock in its application but at the same time with sufficient rapidity to serve the purpose intended. A solenoid, which is normally energized, is used in connection with the brake thrust cylinder. In case of interruption of current or action of the safety stop, the solenoid is de-energized and thereby actuates the brake operating mechanism in such a manner that the brake is set by its own weight. The brake is set automatically and entirely independently of the operator in case of interruption of power current or action of the safety stop. It is also impossible for the operator to release the brake when the current is off the line.

In addition to the regular necessary station signalling system and telephones to the operator, there is also installed two sets of lights on each station and in the hoist room. One set of green lights which when on show that the shaft is clear from the bottom to the upper dump; and one set of red lights which when on show that the shaft is not clear but that the movable dump is in the shaft for dumping purposes at the 1,900 level. There is also a set of white lights in the hoist room by which the operator can accurately spot the cages at each level.

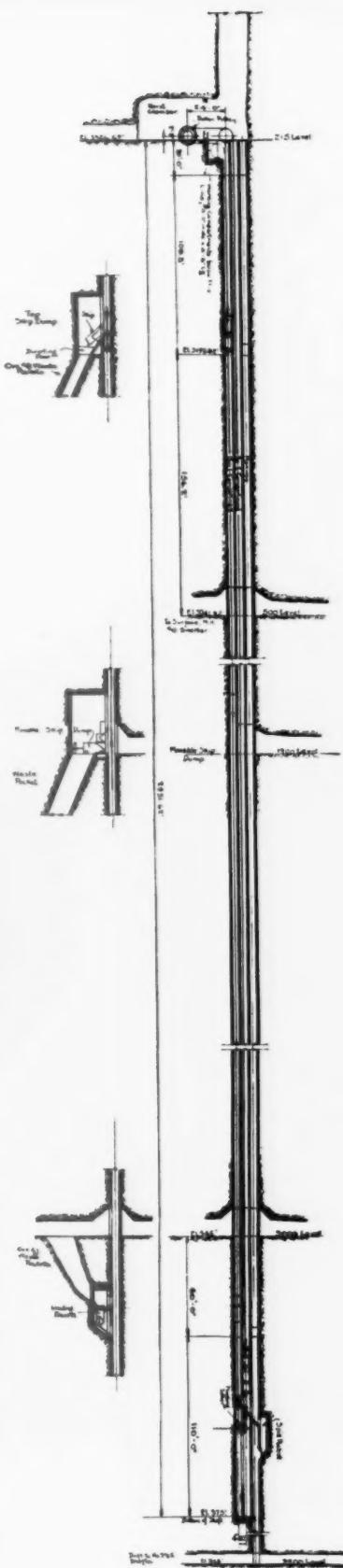
Due to the many different levels to hoist from, it was decided to install one skip only. The skip is in No. 1 compartment and is placed on top; directly coupled below is the skiptender's cage. In



Above—View of Bollen Pulley
Right—Bollen Pulley Hoist and No. 2
Shaft

No. 2 compartment at the top is a cross-head; below this a cage with counterweights placed in the floor, and coupled below this is a two-deck man cage. The center deck of this two-deck cage can be raised to the side to allow long timbers to be handled.

The skip and cage assembly in No. 1 compartment is tied to the cage assembly in No. 2 compartment by a tail rope of the same size as the hoisting rope for the purpose of counterbalancing the hoisting rope. This tail rope passes from the bottom of the skiptender's cage down No. 1 compartment around a five-foot diameter sheave and up the No. 2 compartment to the bottom of the two-deck man cage. The tail sheave is carried on guides located where the ends of the dividers between No. 1 and No. 2 compartments



would be normally and can move vertically for a distance of 39 feet which is sufficient to take care of variation in rope stretch.

At the top, the skip and cage assembly in No. 1 compartment is tied by the main 1½-inch diameter hoisting rope up over a sheave for 90 degrees, then around the Bollen Pulley for 180 degrees, and back over a sheave directly over No. 2 compartment down to the cage assembly. With this arrangement a large saving in power is shown over the double drum type, as the motor work consists only of one-half of the live loading due to placing of counterweights. With this type of hoist it is the usual case to mount directly over the shaft compartment, but with this installation it was decided to set the hoist back 24 feet from the center of the pulley to the center of second sheave, due to the reason of unsuitable compartment arrangement.

The hoist is designed for a maximum working depth of 4,000 feet and handles 8,000-pound load per trip at a velocity of 1,260 feet per minute, using 1½-inch diameter rope. All sheaves at the top and the Bollen Pulley are 8 feet in diameter. The hoist is direct-connected through two sets of gear reductions to a 250-horsepower Westinghouse Type CW, 2,200-volt, 3-phase, 25-cycle, 490-revolution-per-minute motor. Dead weights of the skip side are 7,480 pounds; the counterweight side with cages weigh 11,480 pounds; rope and tail sheave weights amount to 16,700 pounds.

Near the bottom of the shaft below the loading pocket and above the floating idler guide space a bulkhead is built across both the compartments and manway set at an angle of 45 degrees to divert the spill to a small pocket cut to one side of the manway. This spill pocket eliminates the shaft bottom filling up, and the spill is very easily handled. Originally it was returned to the pocket above with a bucket and tugger hoist through the manway but is now handled from the level below by a raise and drift to another shaft. Where the ropes pass through the diverting bulkheads, they run through hardwood guides which are made up in segments and held by clamps. Replacements can be made readily.

The hoist has satisfactorily performed the work for which it was installed. The initial cost of hoist and cost of installation was considerably less than the cost of a double drum hoist. The operating costs are also considerably less than they would be for a double drum hoist doing the same work. During the first year of operation a few minor troubles were experienced, principally in the gripping, but they were overcome by close and regular inspection. This inspection has eliminated any serious delay in operation for a long period.

THE Explosives Engineer announces the appointment of Edward H. Sykes as advertising representative, with offices at 905 American Bank Building, Pittsburgh, Pa.

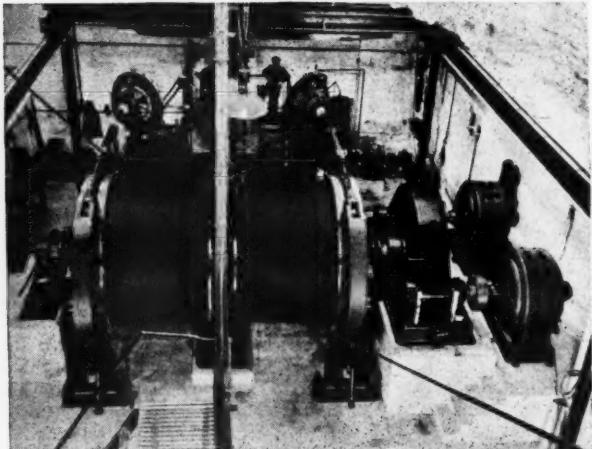
Hoisting Practice

Coeur D'Alene District, Idaho

By H. L. HANSON*

ALL of the larger properties in the Coeur d'Alene District have hoists for their main shafts that are modern and up to date in every particular, and the control of these hoists is safeguarded in every way possible.

Owing to the increased depth of the mine and the demand for greater tonnage, the Hecla Mining Company during 1929 installed and put in operation two new hoists at their main plant at Burke, Idaho. The main hoist is of the cylindrical double-drum type, both drums being op-



Main Hoist, Bunker Hill and Sullivan Mining and Concentrating Co.

erated by clutches to the main shaft. The hoist is first motion and direct connected to a 2,100-hp. continuous rating d.c. motor. The maximum rope speed is 2,400 ft. per minute and the capacity 2,000 tons per 24 hours; 1½-in. round rope is used, and each drum will handle 3,585 ft. of rope. Normally this hoist operates in balance at all times, but the motor has sufficient capacity to allow unbalanced operation should this be necessary. The Hecla shaft is vertical, average hoisting depth being 2,400 ft.

The service hoist for handling supplies and men is single drum, first motion and direct connected to an 850-hp. continuous rating d.c. motor. This hoist operates unbalanced at all times. Both of

* Master mechanic, Federal Mining and Smelting Co.

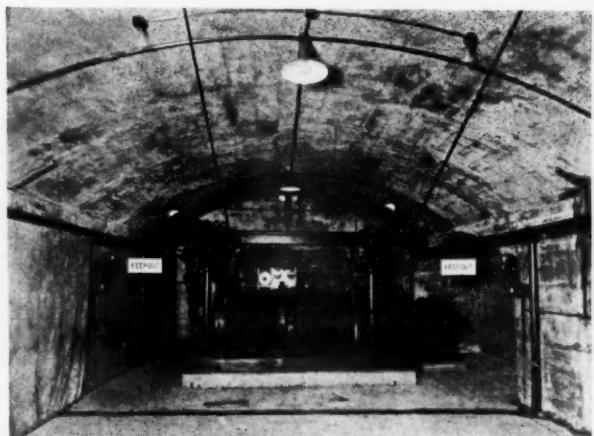
these hoists are equipped with latest type automatic safety controls.

At the Morning Mine of the Federal Mining and Smelting Company at Mullan, Idaho, a new hoist was installed during 1928. The Morning shaft is vertical, the lowest working level at the present time being 3,050 ft. below the collar of the shaft. This hoist is installed underground approximately 2 miles from the tunnel portal and, owing to the transportation problem, all parts had necessarily to be of dimensions to permit transportation through the tunnel. The hoist is of the double-reel type, both reels being operated by clutch to the main drive shaft. It is operated through steel herringbone gears by a 600-hp. 265-volt d. c. motor. The current for the operation of the hoist is supplied by a synchronous motor generator set.

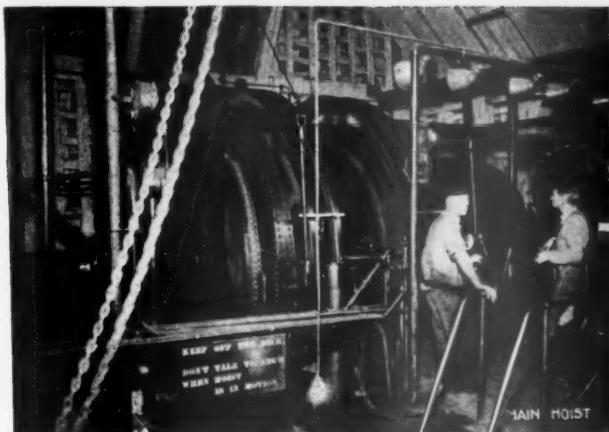
The average rope speed is 1,300 ft. per minute and the

This shaft is also equipped with a service hoist for supplies and men, this being of the single-reel type operated through herringbone gears by a 2,300-volt a. c. 350-hp. motor. This hoist also uses flat ropes. Both of these hoists are equipped with Lilly automatic safety controls.

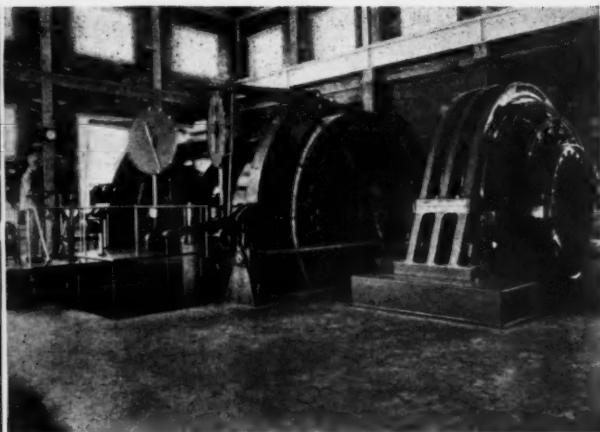
The main hoist at the Bunker Hill and Sullivan Mining and Concentrating Company was installed in 1924 and is of the double-drum type. This hoist is located underground approximately 2 miles from the portal of the tunnel. The hoist has a rating of 600 hp. and a capacity for hoisting 1,500 tons of ore per 24 hours. The shaft is on a 50° incline, the hoisting depth at present being approximately 2,700 ft. The rope speed is 1,100 ft. per minute, the rope diameter being 1½ in. The hoist is driven by two 2,200-volt 300-hp. motors, direct connected through pinion shafts, one motor being placed on each side of the main drive gear. The drums are operated by clutches to the main shaft, these being of the multiple-disc type friction clutch. The hoist is equipped with both hydraulic and dynamic brakes and the usual modern safety devices.



Service Hoist and Station, Bunker Hill and Sullivan Mining and Concentrating Co.



Morning Mine Hoist, Federal Mining & Smelting Co.



Main Hoist, Hecla Mining Co.

A service hoist for supplies and men is also installed at the White Raise. This hoist is of the double-drum type and is driven by a 135-hp. 2,080-volt motor. The rope is $\frac{1}{2}$ in. in diameter, and the rope speed 800 ft. per minute. The hoist is equipped with multiple-disc type friction clutches and dynamic, hand and power brakes and the usual safety devices. This shaft is on an incline of

$40^{\circ} 35'$, the hoisting depth being around 3,000 ft.

The main hoist of the Sunshine Mining Company, on Big Creek between Wallace and Kellogg, is of the double-drum type and is operated by a 350-hp. motor. The rope diameter is $1\frac{1}{2}$ in. and the rope speed 800 ft. per minute. The shaft is a 62° incline, the hoisting depth being 1,900 ft. The capacity of the hoist is 500 tons per 24 hours. This hoist is

equipped with multiple-disc type friction clutches and modern safety devices.

The Page Mine of the Federal Mining and Smelting Company, near Kellogg, Idaho, is equipped with two electric single-drum hoists, both being gear-driven and rated at 125 hp. and 100 hp. The shaft is on a 52° incline and the present hoisting depth is 1,500 ft. These hoists are also equipped with modern safety devices.

SHAFT AND HOISTING EQUIPMENT AT GROUND HOG MINE

By C. S. ELAYER *

THE GROUND HOG property is worked through a three-compartment vertical shaft approximately 600 feet deep. Compartments are four feet by five feet in the clear of timber, and two are used for hoisting and the third is a ladder way and pipe compartment.

There are three main hoisting levels, 400, 500 and 600. All rock is hoisted in

cars on single deck cages. Cars are used instead of skips because the mine produces as many as five or six different grades of ore, which must be handled separately on the surface.

Angle iron chairs are used at the levels and are self-clearing as soon as the weight of the cage is removed. All hoisting levels are provided with three-way tracks to the cages. Cars are fourteen cubic feet capacity end dump with Timken roller-bearing wheels.

The hoist is a double drum electric driven by a one hundred horse-power motor, and equipped with safety over wind and over speed device. Hoisting ropes are seven-eighths inch diameter of a standard make, and the rope speed is about 700 feet per minute.

The main signal system in the shaft is electric with auxiliary rope signals and mine telephones on each hoisting level.

The cages are equipped with safety dogs and also with folding gates built into the cage.

All drill steel is handled in the shaft in special steel cars. The headframe is of bolted steel construction.

The shaft crew consists of a hoisting engineer, one cager and one toplander on each shift.



Shaft and Surface Plant, Ground Hog Mine

* Mine Superintendent, Ground Hog Unit, Asarco Mining Company.



Head Frame and Ore Bins

General Hoisting Practice*

Cresson Cons. Gold Mining & Milling Co.,
Cripple Creek, Colo.

Argonaut Mining Company,
Amador County, Calif.

Central Eureka Mining Co.,
Amador County, Calif.

St. Josephs Lead Company,
St. Lawrence County, New York

Engels Copper Mining Company,
Plumas County, Calif.

This material presented in cooperation
with
CHARLES WILL WRIGHT,
Chief, Mining Division,
United States Bureau of Mines

Cresson Mine

*A. H. Beebe †
C. H. Johnson ‡*

THE ore is hoisted in a 4-ton skip, above which is a platform for hoisting men. The necessity of hoisting from many levels increases the cost. In 1932, 7 levels from the eighth to the seventeenth each contributed 10 to 20 percent of the total company ore hoisted, and the 3 other levels smaller amounts. In addition, lessee's ore was hoisted from several levels above the eighth.

The hoist is a Webster, Camp & Lane first-motion, double-drum, steam hoist, using steam at 140 pounds pressure in twin single-expansion cylinders. Steam is furnished by one of two 250-hp. Aultman-Taylor boilers, used alternately for 3-month periods. One boiler is fired by an automatic stoker, the other by hand. The coal used is lignite slack from the Colorado Springs field. The present hoisting plant was installed in 1923 and designed to serve the needs of the mine to a possible depth of 3,000 feet. The boilers also provide steam to heat the orehouse and surface plant.

From 300 to 350 tons of ore (including lessees' production) and 80 to 100 tons of waste are hoisted daily. All waste is hoisted to the surface.

The skips are dumped into a two-compartment, 25-ton bin at the collar. Ore is trammed in 4½-ton cars by an electric locomotive to the orehouse and waste by the same equipment to the dump.

Argonaut Mine

*By WM. A. VANDERBURG**

HOISTING is done in balance with self-dumping skips having a nominal capacity of 72 cubic feet or 4 tons; the average amount of ore hoisted per skip is 7,100 pounds. The skips are equipped with 12-inch cast steel wheels and roller bearings. The wheels have extra wide flanges to prevent derailing. Track in the shaft is of 40-pound rails laid to a gage of 30 inches. The rails are spiked to stringers secured to the footwall wall plates.

* Excerpts from Information Circulars, U. S. Bureau of Mines.

† Superintendent, Cresson Consolidated Gold Mining & Milling Co.

‡ Formerly Assistant Mining Engineer, U. S. Bureau of Mines, now Assistant Editor, Explosives Engineer.

The flow of ore into the skips from the shaft pockets is controlled by hand-operated rack and pinion gates. The skip is held stationary in the shaft when being loaded by means of a hook attached to the footwall timber (fig. 8). The hook is raised to engage the front axle of the skip by means of the lever, A. By bearing down on the lever, A, the curved arm, B, raises the hook so as to engage the skip axle. When the weight is taken off the hook by raising the skip the counterweight, C, brings the hook to the position shown in the sketch.

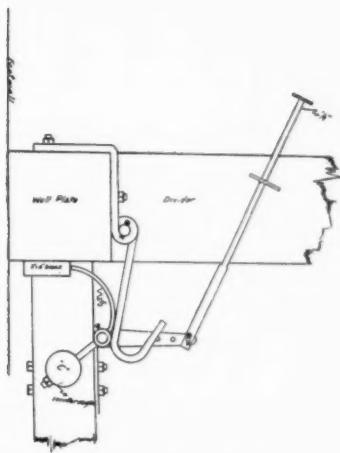


FIG. 8—Skip Chain

The hoist is situated on the hanging-wall side of the vein, and from the drum centers to headframe sheaves the distance is 300 feet. The slack in the hoisting rope is taken care of by three sets of idler sheaves. The hoist is geared; the pinion has 22 teeth and the spur wheel 108 teeth with 3-inch pitch. The diameters of the gears are 21 and 108 inches respectively. The drums are 8 feet in diameter with 47-inch faces, and they carry 10 layers of 1½-inch diameter, 6 strand 19 wires, hemp-core crucible-steel hoisting ropes. There is a post brake on each drum flange and also brakes on two flywheels on the pinion shaft. Clutches are operated by hand levers.

The hoist is driven by a 500-horsepower, 440 volt, 60 cycle, 3-phase, 440 revolutions per minute at full load, induction motor. On the motor shaft is a 42-inch diameter pulley grooved for 20 turns of 1¼-inch hemp rope. The driving pulley on the hoist pinion shaft is 94 inches in diameter. The transmission rope drive is endless in two sections running over 10 grooves each. Each rope is 1,600 feet long and has a tension pulley arrangement mounted on a frame above. A transmission rope lasts from 14 to 18 months.

* Associate Mining Engineer, U. S. Bureau of Mines.

Central Eureka Mine

By JAMES SPEERS *

THE track for mechanical haulage has 25-pound rails; the maximum curvature is a 15-foot radius curve. The total trammimg distance from the Old Eureka to the Central Eureka shaft is 1,800 feet; the average cost when hauling 150 tons per shift is about 3.8 cents per ton.

The skips have a nominal capacity of 3 tons each and are 9 feet long, 25 inches wide, and 3 feet deep over-all. Ten-inch steel wheels are used on the skips and the axle is housed in a continuous box filled with grease.

Track for the skips consists of 52-pound rails laid to a gage of 27 inches. It is laid directly on the footwall plates of the shaft. At intervals of 100 feet carriers are used to support the rails. The method of clamping the carriers to the wall plates and attaching them to the rails is shown in Figure 16.

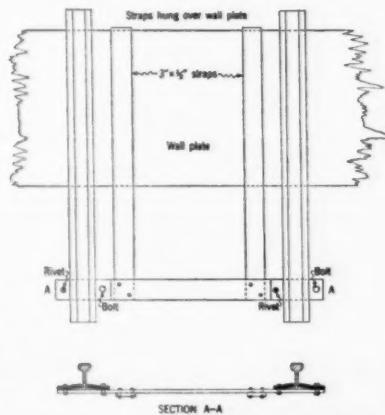


FIG. 16—Rail Carrier for Inclined Shaft

For signalling the hoist engineer two bare copper wires are strung on the end plates and on the dividers about 4 inches apart. The wires carry a current of 24 volts and the bells are rung by short-circuiting the wires with a short piece of steel held in the hand.

Edwards Mine

By JOHN B. KNOEBEL ¹

THE Crane shaft is equipped with a 75-foot wooden headframe of the A-frame type. Joints of main members are strengthened with steel plates, and tension braces are reenforced with 1-inch iron rods.

The hoist is located 150 feet from the shaft, with an idler tower at 100 feet.

The hoist has two 5-foot clutched

¹ Superintendent, Central-Eureka Mining Company.

drums, and is geared to a 250-hp., 585 r.p.m., 2,300-volt induction motor.

Main sheaves are 7 feet in diameter and have plain bearings, demountable rims and liners. The idler sheaves are mounted on a 2 15-16-inch hollow shaft with 1-inch bore; two 110-volt immersion heaters, in series on the 220-volt line, are installed in the shaft to keep the sheaves from freezing to the shaft when they are idle in cold weather.

Hoisting cables are made of special plow steel, and are 1 inch in diameter with 6 strands of 19 wires each.

A 9-man cage and a 2½-ton skip are hung in each hoisting compartment.

Hoisting is done in balance at a speed of 900 feet per minute. Average duty is 28 skips per hour, with a maximum of 33.

Two sets of hoist signals are installed, one used by the men for calling the cage, the other used only by the cager to signal the hoistman. These systems are equipped with lights only on one set and with lights and horns on the return and call set.

Engels Mine

By W. I. NELSON ²

ALL ore from below the tenth level is hoisted in 2-ton skips and dumped into bins from which loading is controlled by arc gates of the type shown in Figure 19. A large door lined with rails diverts the material from the skips into either the ore or waste loading bins (fig. 21).

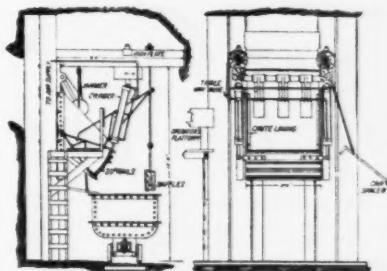


FIG. 19—Arc Gate Chute

Figure 22 shows the arrangement of the ore and waste bins at each level. The space at the bottom of the bins and at the side of the shaft is occupied by the gates and loading station.

With the 2-ton skips 450 tons of ore and waste are hoisted per day. As the skips are busy during the day shift in transporting timber, steel, powder, and other supplies, most of the hoisting is done on the night shift. The hoist has a rope speed of 800 feet per minute and is operated by a 150-horsepower motor. An additional 225-horsepower motor is being installed to operate two 5-ton skips

(Continued on page 42)

¹ Assistant Mining Engineer, U. S. Bureau of Mines.

² Consulting Engineer, U. S. Bureau of Mines.

Hoisting in the Tri-State District

By S. S. CLARK*

THE Tri-State district occupies the unique distinction of hoisting more ore by means of cans or tubs than any other mining district. Possibly our methods and equipment may seem crude or out-moded when compared with the elaborate and expensive equipment used in other districts, but the scheme fits in very economically with our peculiar local problems; such as small lease acreages, narrow runs of ore, and the comparatively short life of the mine, which in turn limits the capital investment.

At present, approximately 20,000 cans equivalent to 12,000 tons of ore are hoisted a day. Most of the mines are only operating one-day shift. When the district was producing to capacity, about 90,000 cans were hoisted per shift. I believe that only one mine is using car and cage hoisting at present, all the rest using cans.

These cans are either of 1,200 pounds or 1,650 pounds capacity, 30 inches diameter by 32 inches deep or 32 inches by 32 inches, sides of 10-gauge steel, bottoms 8-gauge reinforced with a 4-inch channel, rim band and bail straps of $\frac{5}{8}$ -inch by 3 inches mild steel, and bails $1\frac{1}{2}$ inch, round Norway iron.

Nearly all of the hoists are geared, electrically driven, and powered with 112 h. p. motor. A few mines still use the old first motion engine hoist, operated either by steam or compressed air.

The electric hoists are geared for a rope speed of from 1,600 to 2,000 feet per minute and generally use a 7 by 18, $\frac{5}{8}$ -inch, non-spin cable. The average cable life of the district is about 40,000 tons, with an occasional high point of 60,000 tons. These low tonnage figures are due to the small internal angle between the center of the shaft and the center of the hoist drum, and the necessary small diameter sheave wheel.

Hoists are set in the derrick house directly above the shaft with the floor and about five feet above the storage bin top in order to allow dumping clearance and sufficient slope to allow the dumped "dirt" (ore) to pass over the grizzly bars. The hoist is located as close to the shaft as possible and is supported on separate framing from the derrick legs. This framing, called Sampson posts, is composed of four 8-inch by 8-inch legs; the two at the shaft edge are battered in to match the size of the hoist base, the two back posts are battered in to base and backwards to the derrick sill, the usual cross braces are used to stiffen the Sampson posts, and additional rigidity is secured by

* E. M. Baxter Springs, Kansas.

running old cables down from the hoist and fastening them around the sills, tightening them with turnbuckles.

At a convenient height above the ground, that is, to allow sufficient clearance for lowering supplies in the mine, a well hole is built of 1 inch by 12-inch oak. At the bottom the well hole is flared to the size of the shaft and tapers upward to about four feet square at the hoist floor. This tends to guide the can and prevent it catching on any timbers in case it is swaying either from a high wind or a bad take off. This well hole is extended about waist high above the hoist floor; the hoist controller is on the hoisterman's right, the brake and clutch levers in front of him and he is in position to look down the shaft and follow the travel of the can. In lowering the empty can, which is done with the clutch out and the speed retarded with the foot brake, the hoisterman will feel his cable as it nears the bottom until the hoist has unlatched the empty and hooked on to the loaded can. The clutch is then thrown in, as the motor is wide open all the time, the controller being rarely used. As the can nears the top the hoisterman grasps his tail hook, and as the can is momentarily stopped above the dump, the tail hook is hooked in the dump ring in the bottom of the can and the trap door dropped over the shaft. This seals the shaft from falling rocks and acts as a slide to the grizzlies. The can is lowered until the tail chain tightens and upsets it. The can is then picked up, the hook removed and the door opened almost simultaneously.

At the hoisterman's left hand is an electric flash signal (Skidoo bell). Should he see a rock fall or bump the can he hits his switch which flashes the mine lights, giving every one time to get in the clear. Just above the hoisterman's head and close to the shaft edge, a heavy roof is built to offer some protection in case he should pull a can into the sheave wheel.

Hoisting from one level with a 250 to 300-foot shaft and a 60 or 70-foot derrick, a good hoisterman and "hooker" can handle from 800 to 900 cans per eight-hour shift.

Underground, the hooker latches the cable hook on the loads, unhooks the empties and rolls the empty can onto the ground car or truck; the "bumper" pulls the empties from the center and pushes a loaded can in. The timing is

so perfect between hooker and hoisterman that no signals are exchanged between them except in an emergency.

Most shaft bottoms are laid out for a center pull (which most hoisting crews prefer), that is, the loaded can is pushed in and stopped in the exact center of the shaft by means of small notches cut in the rail and spaced the same as the wheel base of the ground cars or trucks. The hooker stands on a small platform the same height as the ground cars and as the empty is lowered, he pulls it off center and lands it on the platform or "dog house" as it is locally named. He unlatches the hook and snaps the load which gets away without any steady or pause; the empty is given an oscillating movement and rolled on to the waiting truck to be pulled away by the bumper.

On the side pull, the empty is landed in the center and the load is picked up off center. This method requires a pause while the hooker puts the can on steady and requires extra muscular exertion. It is more unsafe as cans are more apt to bump the shaft walls and spill rocks on the bottom crew before the "Skidoo" could warn them. I might state here that the hooker and bumpers wear the army type of steel helmet, and it has resulted in saving a great many from serious injury or even death. When one considers the number of man trips up and down a shaft per day, the rarity of a shaft accident shows that it is rather a safe way of travel after all.

The hoisting costs submitted are the average of several mines of rather similar physical condition and equipment, and cover a period of one year. The

Hoisting Costs Only

| | Cents per Ton | Per Cent of Hoisting Cost |
|----------------------|---------------|---------------------------|
| Labor | .022 | 37% |
| Supplies & Repairs.. | .007 | 13% |
| Electric Power | .029 | 50% |
| Total | .058 | |

wages paid at present for hoisterman and hooker are \$3.50 per shift. The wage scale here varies with the price received for zinc concentrates, and a bonus of $\frac{1}{4}$ -cent per can for all cans in excess of 600 per shift is paid to each. Some mines make a practice of furnishing slicker suits to hookers when working in a wet shaft.

Efficient Mine Hoisting

By ALEX J. NICHT, JR.*

WHEN there is under consideration a large hoist for a metal mine the ultimate operating conditions are often impossible of exact determination except in a very general way. The hoist may be called upon to operate finally from an ultimate depth of several thousand feet below any existing depth in the district or below the present shaft depth of the particular mine. Sometimes in the case of an entirely new installation it may not be possible to determine at the outset with sufficient accuracy the tonnage which it may be necessary to hoist from deep levels so that it will be hard to decide in advance the most efficient average rope speed to take care of conditions that may be encountered later. The shaft development may extend over a long period; consequently, a higher rope speed necessary for possible ultimate depth may impair hoisting efficiency when operating at upper levels where work will be done for perhaps many years. Consideration, such as these when made known in advance, are problems which the manufacturer can work out in the original design of the hoisting equipment to obtain the

greatest efficiency when operating under any of these conditions.

Such factors were involved in consideration of the Campbell hoist, and later the Junction hoist for the Phelps Dodge Corporation in Bisbee. At the time the hoists were considered the shafts were not over 2,500 ft. in depth and there was a possibility the final hoisting might be done from 4,000 ft. to 5,000 ft.

As considerable development work extending over a period of years had to be done it involved loading below the maximum required of the hoist, and the rope speed desirable under such conditions was considerably under the top speed desired for their ultimate conditions.

The ultimate requirements called for a double drum geared hoist operating in conjunction with a motor generator flywheel equalizing set. It was decided that during the development period a much lower rope speed than the ultimate would be advantageous. Also under such hoisting requirements, due to the lighter power demands, elimination of the peak load by means of the flywheel was really not essential.

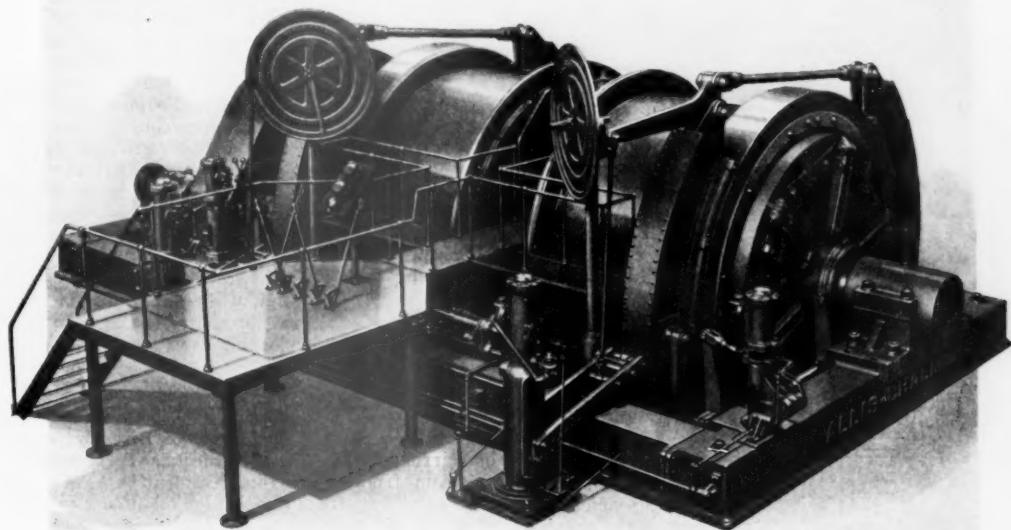
From a study of all the conditions to be encountered, decision was finally made to design the flywheel set with the wheel at the one end, as shown by cut No. 27022. The wheel was coupled to the set proper by means of a flexible coupling. During the development period the flywheel was disconnected entirely, eliminating the attendant windage, friction and no load losses, thereby increasing the efficiency of hoisting.

A special direct current variable voltage field control system was designed to provide four distinct hoisting speeds of either 800, 1200, 1600 or 2000 ft. per minute, and also to give an inspection speed of 100 ft. per minute.

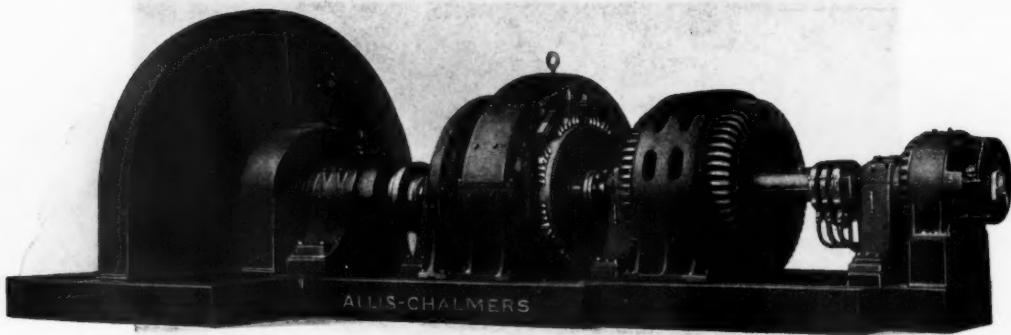
The control could be set for any one of these speeds and the hoist would perform as though it had been built for that particular speed only. This provided a wide range of flexibility and insured securing maximum efficiency under all encountered conditions of hoisting. The low speed operation was employed with the flywheel disconnected.

The double drum hoist at the Junction Shaft shown by cut No. 27122 is equipped with 12' diameter by 6'0" face welded plate steel drums having parallel groov-

* Allis-Chalmers Mfg. Co.



44,000 lbs. rope pull, 2,000 ft. min. max. Rope Speed Double Drum Hoist
for Junction Shaft



1,250 k.w. motor generator flywheel equalizing set driven by 1,000 h.p., 2,200 volt, 60- cycle, 3-phase wound rotor induction motor

ing, winding 5225 ft. of 1½" rope in three layers. The maximum rope pull for which the hoist is designed is 44,000 lbs. Each drum has a 14'0" diameter multiple arm double disk friction clutch and a structural steel parallel motion post brake. Each clutch and brake is oil actuated by individual clutch and brake engines supplied with oil from an oil pressure system. The hoist is driven thru single reduction Falk herringbone

gears by a 1500 h.p., 440 RPM direct current motor receiving power from a 1250 KW motor generator flywheel equalizing set.

Each hoisting problem must be considered on its own merit. Conditions encountered in some cases make it more desirable and economical to use a special type, size or design of drum, or to employ a synchronous motor generator

set or a flywheel set for supporting the hoist motor. These are factors which the manufacturer of modern hoisting equipment must carefully analyze to determine type of equipment which will insure greatest reliability and overall economy for all of the operating conditions which may be encountered at the particular mine where the hoist will be used.

General Hoisting Practice

(Continued from page 39)

in order to handle a larger tonnage. The space between grizzly rails at the skip pockets will be reduced to 11 inches to facilitate skip loading.

A typical skip chute is shown. The skip tender has some trouble in loading the 2-ton skips without spilling on account of the size of the rock. The air-controlled slide worked in conjunction with the fingers prevents overloading of the skip to a great extent. It is anticipated that the 5-ton skips will give less trouble from overloading.

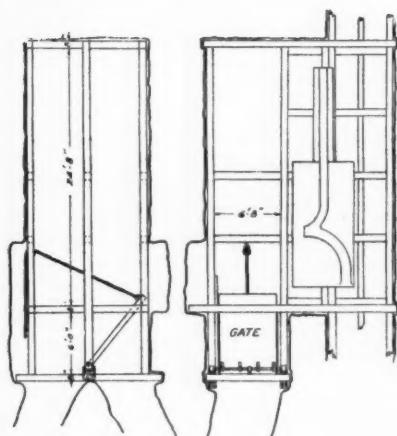


FIG. 21—Skip Dump Station

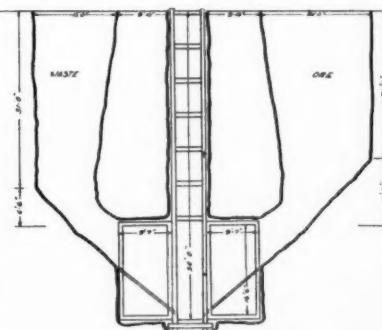


FIG. 22—Ore and Waste Bins

The men are taken to and from the No. 10 raise on the tenth level in closed cars or "Pullmans." Each car holds from 10 to 12 men. The forward car is equipped with a double door to keep the cold air in wintertime from blowing through the cars.

AN ITEM of interest to steam power plant operators, and steam users generally, is the steam booster compressor offered by Worthington Pump and Machinery Corporation, Harrison, N. J. Its purpose is to take steam from an existing boiler system, raise its pressure beyond the capability of the boiler itself and distribute it to points of demand. This booster has been developed to take care of situations where, as often happens, a supply of steam of higher pres-

sure than can be obtained from the available steam sources is required for some phase of manufacturing process, or to increase pressure in steam that has been carried through long pipe lines, etc. Under these conditions, where the demand for higher pressure steam is within a reasonable capacity, the installation of a Worthington steam-driven or motor-driven steam booster compressor solves the problem, and the machine will supply steam at the necessary pressure at a fraction of the cost of a new boiler with accessories, as would otherwise be necessary. Furthermore, due to the reliability of the unit and controls which may be applied, but little attention to the machine is required, and the steam pressure or temperature determined upon can be regulated within very close limits. This is especially applicable to the many chemical or special industrial processes where a definite temperature must be continuously maintained with practically no variation.

Worthington bulletin L-611-B3, describing the machine in detail, will be furnished on request.

FOllowing a recent meeting of the Board of Directors of the Westinghouse Electric & Manufacturing Company, President F. A. Merrick announced the election of three vice presidents, Roscoe Seybold, formerly comptroller; William G. Marshall, formerly assistant to vice president; and Ralph Kelly, formerly director budgets. They will make their headquarters in East Pittsburgh.

BUREAU OF MINES

Plans and Aims Outlined By Director Finch

FOllowing his confirmation by the Senate as Director of the United States Bureau of Mines, Dr. John W. Finch has briefly outlined certain plans for making the bureau a more useful agency.

Because of the seriousness of the current economic situation, Director Finch intends for the immediate present to emphasize the activities of the Bureau's Economic Branch.

"In attempting to solve industrial problems, the national administration is faced with the necessity of so-called long-range planning." As Dr. Finch points out, "the success of any such forward-looking program—in which the interests of capital, labor, and the consuming public must be equally protected—will require the assembly of data on a much more orderly and thorough scale than has heretofore been attempted, in order to supply the industry, the Government, and the public with all the facts regarding costs, work hours, wages, selling prices, distribution, and marketing of mineral commodities and their primary manufactured products.

"So far as minerals are concerned, advance estimates of demand for particular minerals over definite periods of time are essential to the intelligent consideration of a planning program." Dr. Finch believes that such advance estimates "can best be made by the Government in cooperation with private agencies, rather than by the private agencies alone, because the Government can better evaluate and reconcile any differing estimates; the result will therefore command greater confidence. Furthermore, the collection of statistics affecting the mineral industries must be continuous and made on a uniform basis, for which the Government is the better equipped. Moreover, conditions abroad are of more vital concern to our industries today than ever before, and the Government is in the better position to secure and compare both foreign and domestic data and to make fact-finding studies of tariffs, cartels, and foreign mining laws and decrees, in order to obtain a clear picture of the international situation. And finally, the Government—as representing the greatest good for the greatest number—is in a position to define clearly a just policy of conservation that must be an integral part of any long-range planning."

However, the new director does not intend to stress economic studies at the

expense of other bureau work. "The mining industry, in general, and in the western mining states in particular, has urged the necessity of increased assistance in meeting problems resulting from low metal prices. The direction this can take is indicated by previous work of the bureau, which has helped in the past to discover or perfect improved processes and methods for the more profitable development of our mineral resources. To meet competition of richer deposits in other parts of the world, domestic producers of several metals must, in a large measure, employ cheaper and better mining and metallurgical methods. New and cheaper production methods for domestic metals, threatened with foreign competition, must be vigorously pushed. New processes must be found, new uses created, new markets obtained."

Dr. Finch called attention to the fact that "the Bureau of Mines, like other bureaus, has been subject to drastic curtailment of appropriations as part of the general program of Federal economy during the lean years of the depression, which, of course, is a serious handicap to effective action. At present the bureau's funds are only about one-half of what it had in former times, say in 1929. A year and a half ago it had to reduce its field activities 40 percent—by discharging trained employees and discontinuing the many valuable services formerly rendered to the mining industry—to meet a cut of three-quarters of a million dollars." Dr. Finch stated, however, that he saw some signs of hope for better times. "Hundreds of letters have been received by the bureau protesting the discontinuance of many of its important functions and urging a broadening of its services. The bureau is back in the Department of the Interior, where it belongs. It is in a friendly atmosphere. It will be able to carry on its association with the U. S. Geological Survey and the General Land Office, and other people with whom it has to work. It has the interested cooperation of the Secretary of the Interior and men at his elbow, who are really deeply interested in the mining industry, and President Roosevelt has been developing a more and more interested attitude toward the industry. And so, although there will probably be only a very small increase in funds for the next year, and

although the trail back to the old level will be hard and steep, it is undoubtedly true that the bottom has been reached as far as reduction of bureau appropriations is concerned, and that the future will bring increased funds rather than curtailment."

In discussing work which he plans to resume as soon as funds can be obtained, Dr. Finch mentioned explosives research, which was responsible for the development of comparatively safe "permissible explosives" for use in coal mines; recommissioning of the nine mine rescue cars which now stand idle on railroad sidings but which should be placed in service to render aid at mine disasters or to serve as bases of operation for training miners in first aid, in mine rescue and recovery operations, and in safety education; the study of methods of accident prevention, particularly with respect to falls of roof in mines; expansion of first-aid training, which has been reduced to about one-half its former activity; and the resumption of studies of health of miners and of sanitation in mining communities.

In the domain of technology, the director looks forward to increased bureau activity in petroleum research, particularly in the work of preventing waste of petroleum and natural gas, during production, and in the study of refining methods to obtain new or better products; to restoration of studies of fuel utilization, including those on smokeless combustion, the use of pulverized coal, and the manufacture of gas, coke, and by-products; to extension of fundamental scientific research as a basis for the development of new methods and new processes; and to enlargement of the bureau's service in the field of mining and milling methods and costs.

Referring to the bureau's functions, Dr. Finch pointed out that "the bureau has no regulatory powers, and desires none. It is not a bureaucratic organization directing the mining people what to do, but, on the contrary, is an organization that endeavors to render friendly and cooperative service." To further these aims, the new director hopes to enlist the services of an advisory committee "in which labor, mine operators, and the consuming public will have full representation, and which will outline broad policies and lines of work that will enable the bureau to render truly effective service and assist in stimulating the far-reaching mineral industries and thus aid in national recovery."

Of all things . . .

If Washington's theaters aren't playing to packed galleries these days, they can blame it on Congress. . . . No theater can hope to match the efforts of the lawmakers. . . . Comedy every day, sometimes dozens of times a day. . . . Drama some of the time, more often melodrama. . . . Sometimes there's even a moment of tragedy.

■ ■ ■ ■ ■
And, of course, admission is free. . . . So no wonder that the galleries are packed at the matinee performances and standing room is at a premium. . . . Society ladies and housewives gaze down in rapt attention as the laws of the Nation grind curiously toward statute stage. . . . But the spectators miss half the fun. . . . They never get to read some of the bills and resolutions introduced. . . . Out of the 6,000 measures which found their way into the hopper in the first four weeks, there have been some gems.

One Congressman wants the House membership cut in half. . . . You can imagine the stir that caused for a moment. . . . His resolution declared that "the membership is too large, noisy, and unwieldy to conduct . . . business." He says 218 Congressmen are ample. . . . It's a good bet you'll never hear of that resolution again this session.

■ ■ ■ ■ ■
Other queer quirks of Congressional action: . . . A Democrat, a Southern Democrat at that, wants to cut the number of employees in the legislative and executive departments! One suspects that there's more than an altruistic regard for the taxpayers' money involved.

Seems that he's found out that most of the messengers and janitors and doormen and cloakroom attendants and barbers around the Capitol are Republicans. . . . A fine state of affairs when a Democratic Congressman or Senator has to be shaved by a Republican! . . . Why, what if the razor was allowed to slip. . . . Or think of a Republican holding a Democratic overcoat. . . . Tsk. . . . Tsk.

Well, you can see what this Nation has come to. . . . It calls for a Congressional investigation. . . . Anyway the two resolutions ask that five legislators be named to look into the situation. . . .

■ ■ ■ ■ ■
Bearded George Tinkham, of Massachusetts, who in his 22 years of service in Congress hasn't fathered much legislation, wants a National Hall of Fame erected in Washington. . . . In it would be placed the busts and other statues of famous men . . . and women. . . . These now clutter the halls of the U. S. Capitol. . . . In fact they got so thick that the architects thought the floors would cave in and many of them were moved away. . . .

■ ■ ■ ■ ■
Never let anyone say that talk is cheap. . . . It just goes to prove that whoever said that first hadn't heard of Congress. . . . Because it's going to cost a round half-million dollars to print everything the

96 Senators and 435 Congressmen said by the time the session ends in June. That's only for the Congressional Record. . . . The 10,000 bills which will be born before the 74th Congress adjourns is another story.

It's the appendix section that runs the Record up to its average of 100 pages daily. . . . And it costs \$45 a page to print the Record. . . . Figure it up yourself. . . . Wonder who said the Congressional Record was dry! . . .

Of course it isn't all outright loss. . . . Not by any means. . . . To balance the \$500,000 cost of putting out the Record, the Government takes in around \$9,000. . . . That comes from the 1,078 (Jan. 15 figure) persons who subscribe to the Record. . . . Costs them \$1.50 a month. . . . But the Senators and Congressmen get the Record gratis. . . . In fact each Senator gets 88 copies delivered daily to his office, besides one at his home with the morning coffee. . . . Congressmen rate only 60 copies at the office, but they get one at home, too. . . .

■ ■ ■ ■ ■
The House, as contrasted with the august Senate, has its moments. . . . In what the leaders described "as a moment of revelry" one day early in January while the \$770,000,000 independent offices appropriation bill was on its way for passage, the Congressmen approved an amendment which would have cut the \$264,043 salary allotment for the Home Loan Bank Board personnel to \$11. . . .

The idea behind it all was, according to Congressman Blanton who urged the action, "to make the Home Loan Bank Board crawl up to the Senate . . . and change their arrogant ideas." . . . Imagine the dignified members of the Home Loan Bank Board on their stomachs! Congressmen do have funny ideas.

■ ■ ■ ■ ■
The Government is borrowing money for the lowest interest rate since December, 1932. . . . Its annual average interest cost then was 3.407 percent. . . . On Dec. 21, 1934, the cost had dropped to 2.96 percent. . . . The Treasury points to that with pride.

Something not pointed to with so much pride is that while on Dec. 31, 1932, the annual interest charge was \$696,900,000 it was \$827,100,000 on Jan. 1, 1935.

That 827 million dollar interest bill of ours is more than it takes to run two or three of those medium-sized Balkan countries. . . .

■ ■ ■ ■ ■
The prize bill of the session thus far was introduced by a Pennsylvania Democrat. . . . It would provide for an appropriation of \$1,000,000 to each of the 435 Congressmen who would distribute the money in their own Congressional district as they saw fit! . . . (This is the first Congress in 40 years that Pennsylvania has had Democratic representation). . . . Maybe that explains things. . . .



Report of the Planning Committee for Mineral Policy--

THE NEED OF A NATIONAL POLICY

THE United States leads the world in variety and abundance of its mineral deposits. No similar area contains as great a number of mineral deposits of such large size, high grade, and easy accessibility. It produces about 40 percent of the value of the world mineral production from within its own borders, and its commercial control of mineral resources in foreign countries brings its proportion of the world total up to 50 percent.

Minerals account for about 40 percent of the value of the annual product of natural resources in the United States, which include its agriculture, forests, and water powers. In 1929 the mineral industries employed more than a million men and reported products to the value of nearly 6 billion dollars.

Mining is the stepchild of our economy. Rightfully it is coordinate with agriculture and manufacture; actually, it receives insufficient attention. Ours is the age of the power machine and the minerals furnish both the power and the machine.

The outstanding public problem is that of conservation. By conservation of minerals, we mean not hoarding, but orderly and efficient use in the interest of our national welfare, both in war and peace, without unnecessary waste either of the physical resources themselves or of the human elements involved in their extraction.

We believe that the record of the mineral industry in the United States warrants the presumption that it should continue to develop under private initiative.

It is mainly the conservational aspects that the committee has in mind in its discussion of possible extension of public regulation or control, Federal or State. By public control we mean not so much the forcible public interference with private business, as the addition of safeguards and powers to enable industry itself to act collectively, where necessary, in order to avoid the wastes, physical and social, of destructive competition.

THE GROWING HANDICAPS OF MINING

THE real significance of mineral exhaustibility is the tendency to force an increase in cost. When the nation became conscious, about the turn of the century, that its mineral reserves were not inexhaustible, men pictured a day of wrath when all the coal and all the iron would be consumed. Then when the looked-for shortage did not occur, a feeling rose that conservation was a cry of "Wolf!" and a reaction set in. To get a rational picture of the problem of conservation, it must be fixed in mind that the danger is not absolute exhaustion in some distant future, but rather an early increase in cost through depletion of the rich and accessible deposits. The mines grow deeper and the ore bodies leaner. Exhaustion of thick coal beds forces the use of thin ones. Once famous districts pass into decay, and except as the discovery of new deposits or the advance of technology offsets the growing difficulties of nature, costs tend to increase.

What is to be done? The broad answer is clear: Eliminate waste and improve mineral technology.

An economic organization of the mineral industries must be encouraged that will minimize the resource wastes and the business losses of destructive competition. Tax, tariff, and public-land policies should be reviewed in the light of their effects on resource use, and conservation. The States should be encouraged to use their constitutional authority to prohibit waste by the exercise of the police power. The arts of exploration, mining, and metallurgy must be fostered so as to offset the progress of exhaustion and the growing obstacles of nature. In all such action the liberties, health and living standards of the mine workers must be guarded as a primary obligation.

PROBLEMS OF SURPLUS PRODUCTION

1. CONSERVATION AND PRODUCTION CONTROL

WHILE it is clearly inadvisable to authorize price-fixing and limitation of output in the great majority of our industries, such as general manufacturing and trade, it may prove to be wise, under the necessary public supervision, in those industries involving nat-

One of the most important public documents dealing with mineral resources in many years is the report of the Mineral Planning Committee of the Natural Resources Board. This committee, of which Dr. C. K. Leith, of the University of Wisconsin, is Vice-Chairman, includes the following members:

Herbert Feis, economic adviser to the Department of State; J. W. Furness, chief of the minerals division, Department of Commerce; Lieut. Col. C. T. Harris, Jr., ordnance department, U. S. A.; Leon Henderson, director, division of research and planning, NRA; W. C. Mendenhall, director, U. S. Geological Survey; F. A. Silcox, chief forester, Forest Service; Wayne C. Taylor, special assistant to the special adviser to the President on foreign trade; W. L. Thorp, director, consumers' division, National Emergency Council; J. W. Finch, director, U. S. Bureau of Mines. W. P. Rawles is technical secretary.

Excerpts from this committee's report, which has just been released, are given herewith.

ural resource waste. Even during the present emergency, the NRA has recognized a distinction between business in general and industries involving a problem in conservation. The nation must learn that in some circumstances competition leads to waste that we can ill afford.

A review of the mineral industries shows that troubles of surplus are widespread, but most acute in coal and oil. They are present, though less acute, in iron, copper, lead and zinc.

While there has been large overdevelopment of iron ore capacity, there has been no difficulty in holding production reasonably in line with consumption or in stabilizing prices, because of the fact that nearly all of the mines are captive and also because of the concentration of ownership in a few companies. These companies will take a large loss, because their overestimates of future demand have led to a great excess of mine capacity. However, it is not apparent that Government coop-

eration is needed to effect conservation of the resources, though it may be needed for rehabilitation of unemployed workers and safeguarding the welfare of labor.

For the other five—coal, oil, copper, lead, and zinc—experience has thus far shown that the industries acting alone have been unable to prevent dissipation of resources or economic and social distress. Already, under the National Industrial Recovery Act, several of these industries are asking Government approval of various measures designed to stabilize supply and price, to control excessive stocks, or otherwise to set bounds to competition. Their leaders desire to continue the effort at stabilization in some form, and it is in the public interest to encourage them to do so. Each of the five listed has its own distinctive problems, sharply differing from those of the others, but all present in some degree the common problem of control of destructive competition.

2. BITUMINOUS COAL

Need for Stabilization: The mineral fuels are subject to a high degree of substitution and inter-industry competition. The bituminous-coal industry, as the oldest and most important source of energy, has suffered loss of markets to oil, natural gas and water power. Competition within the industry has always been intense because of the widely scattered reserves and the thousands of producing units. Rivalries between districts and the legal obstacles of the antitrust laws have hitherto prevented any form of centralized organization.

Lack of adequate profits has meant inadequate wages and excessive waste of coal resources. For years the industry has worked in surroundings of poverty. Coal was therefore one of the industries which could gain the most from the facilities for collective action offered by the National Industrial Recovery Act. Its experience under the Bituminous Coal Code indicates that continuation of some form of price or production control is necessary to effect the stabilization of this industry.

The Case for Continuing Control: In the bituminous coal industry the outlook is not for a temporary emergency, but rather for a long period of destructive competition and natural resource waste unless some continuing adjustment of supply and demand can be effected. In this industry the disadvantages of price and production control are less weighty, and they are offset by the public interest in conservation and in protecting the wage standards of the miners.

The problem of protecting the consumer against unreasonable advance in price is simplified in coal mining by the pressure of competitive sources of energy—oil, gas and water power—and by the alternative offered to the larger consumers of opening mines for their own use. Industrial consumers already supply a fourth of their own requirements from mines which they control.

The objection that stabilization protects the inefficient producer loses some

of its force in this industry where several thousand marginal producers (commercial mines, not wagon mines) had already been forced out of business before the great depression began. Any mine able to survive the years 1930 to 1932 has demonstrated a considerable efficiency. With deflation of the less efficient mines so far accomplished, the present time offers a unique opportunity to inaugurate production control.

The most serious objection to continued price control is the tendency under it to create more capacity, through development of new mines or reopening of old ones. There seems no answer to this objection short of providing some method of controlling the expansion of capacity, if permanent stability is to be attained.

Possible Forms of Capacity Control: Already the industry is awakening to the fact that control of price or output is not enough and that it must also grapple with the control of capacity. The problem of capacity before the industry is two-fold—first to reduce the present surplus and, second, to control unwise expansion in the future so as to prevent a repetition of past overdevelopment. The necessity of some check upon future expansion is suggested by the increase in small truck mines which has already taken place under the code.

The Committee has considered some of the chief suggestions that have been offered for control of capacity.

It has been proposed at times that a sliding wage scale or a guaranty of minimum employment be included in wage agreements between operators and the miners' union, in a way to encourage a shift of business from high-cost mines to those able to operate more steadily.

It has been proposed that promoters of additional mines—as distinct from replacement of worked-out mines—be required by the Federal Securities Commission to include a full statement showing that existing capacity in the industry is already more than sufficient in all proffers of securities addressed to the investing public. Such a plan should discourage some unwise promotions.

It has been suggested that extensions of common carrier railroads serving the coal fields should be controlled in the light of their effects on mine capacity. Under the Transportation Act a railroad desiring to construct a branch line must obtain a certificate of public convenience and necessity, and if the central coal authority found that existing capacity was sufficient and recommended against the extension, the Interstate Commerce Commission might withhold its approval. This would not prevent promoters of a new venture from building their own branch line down to the railroad and demanding a connection, but it should serve to discourage unwise development. It would obviously have no effect on the increasing number of mines served by motor trucks.

It has been suggested that marginal mines be purchased by a governmental agency and shut down, a small tonnage tax being levied to pay the cost of the ac-

quisition and to pay for rehabilitating displaced miners. Such a plan should do much to relieve the condition of the mine workers. It would afford steadier employment in the other mines remaining and would tend to center production in the lower-cost mines whose savings in overhead through steadier running time would go far to absorb the tax. This plan deserves most careful consideration, though its execution would have to be timed with reference to general relief and unemployment policies, so as to give reasonable assurance that workers discharged by shutting down the mines in question could actually be placed in other occupations. In further support of this plan, it is argued that where employment of coal miners is reduced by public hydroelectric projects, an obligation rests upon the public to rehabilitate the workers displaced.

The committee, therefore, would commend the importance of capacity control alike to the industry, the mine workers and the Government. We would urge the industry to remember that some limitations on the individual are necessary in any form of joint action. We would urge upon the public the great importance of the ends in view and feel that a friendly hearing should be accorded to any serious attempt by this industry to stabilize production and capacity on a national scale. Above all, we would counsel against a defeatist attitude. We cannot believe but that if the bituminous coal industry really desires to achieve economic stability there will be found both economic devices and constitutional powers sufficient for the purpose.

3. PETROLEUM

The United States produces and consumes more oil than all other countries combined. During the past 75 years the United States has produced and consumed about two-thirds of the total world production of oil, although its share of the world's reserves probably did not exceed one-fifth. Proved reserves never have been sufficient to supply our domestic needs for more than a decade or two, and because of the highly conjectural nature of estimates of the magnitude of unproved reserves, fears of an imminent shortage have arisen repeatedly. Such fears generally are allayed during periods of large flush production like that from east Texas, but the fact should not be overlooked that the periodic flooding of the market is due more to an excess of wells through which oil may reach the surface than to a superabundance of the reserves.

The extent to which our limited reserves of oil and gas are being drawn upon demands prompt adoption of a national policy that will insure a wiser and more efficient use of the remaining supply. Such a policy should have the following influences:

- (1) To develop technical and scientific knowledge that will enable the operators of petroleum properties to use energy associated with the oil for moving it to the well and through the well

to the surface, leaving a maximum of energy in the system available to do such work in the future, thus minimizing the quantity of oil to be left underground beyond recovery by ordinary means.

(2) To discourage all forms of needless waste of oil and gas, and of the energy associated with them in their natural reservoirs.

(3) To discourage the drilling of more wells than conditions warrant.

(4) To prevent premature abandonment of small pumping ("stripper") wells.

(5) To encourage utilization of individual producing fields in order that geologic data and sound principles of engineering (rather than destructive competition arising out of property lines on the surface that bear no relation to conditions underground) may control the manner of their development and operation.

(6) While encouraging all proper and legitimate uses of oil and gas, to discourage production of distress oil, which demoralizes markets, leads to waste, and fosters inefficient or inferior use.

The movement toward production control is gaining impetus both within and without the industry, because regulation of output seems essential to a national policy that will promote the conservation of petroleum resources, the welfare of the industry, and ultimately of the consumers. The Congress, the Oil Administration and the several States are wrestling with the highly controversial question of methods.

4. COPPER

Turning now to the nonferrous metals, we find the desire of the industry to control competition less strong and the problem of conservation less acute than in the case of the mineral fuels. Yet here, also, there is waste of resources that is of national significance and that results in distressing economic losses. Considerations of labor welfare also point to the need of some modification of the rule of uncontrolled competition. A public as well as a private interest is clearly involved.

Economic stability is of peculiar importance to the nonferrous metals. They are especially subject to and they suffer from wide variations of price. They need, above all things, to balance supply and demand, to avoid needless expansion of capacity, and to temper the extremes of price fluctuation, whether sudden advances or violent declines. The quest for stability is seen in numerous foreign experiments, such as the European metal cartels, which have attempted, none too successfully, to control the extremes of competition.

Moreover, in the case of these metals, the consumer's objections to production control carry less weight than in the case of the typical manufacturing industry. The problem of protecting the public against unreasonable advances in price is simplified by the conditions of the copper market. International movements in

Seventeen Salient Points

The Committee makes 17 salient points in its summary. These points are:

1. Mineral resources are exhaustible and irreplaceable which is an essential consideration in a national mineral policy. Conservation is defined and analyzed. Better coordination of private and public effort is required.

2. Consumption forecasts are the corner stone of planning.

3. Need for control of production, price, or capacity is discussed for oil, coal, copper, lead, zinc, without specific recommendations as to kind of measures. Need is clearly established for coal and oil and enabling legislation is recommended.

4. Methods are specified for encouraging development of minerals in deficient supply in the U. S. Tariffs as a method are discouraged.

5. Monopolies and minerals are discussed. Retention and vigorous enforcement of the anti-trust laws are recommended with provision for authorizing collective action to control wasteful competition under public supervision.

6. Possible extension of leasing laws on all public lands to cover all minerals (except that portion of Alaska outside of national forests) is suggested.

7. With special exceptions, any broad extension of Government or state ownership is not approved.

8. Necessity is pointed out of making provision for permanently stranded mining populations. A relation to land-use planning is here indicated. Further development of submarginal deposits is frowned upon, except for minerals of deficient supply in the U. S.

9. Taxation. Discovery and depletion allowances in income tax, designed to encourage development of minerals, to be studied as to their effect on the problem of production control. Anti-conservational effect of state ad valorem taxes on reserves are discussed; study to be made of possible revision.

10. Encouragement of states to exercise constitutional authority to prevent natural resource waste is advocated through use of state police powers.

11. Recommendation made that Government sponsor scientific and engineering attack on problems of conservation and cost reduction.

12. Protection of safety and health of mine workers held to be primary obligation of the Government.

13. Thought is given to Federal agencies of mineral administration and their organization.

14. Foreign policy discussed, and recommendations made, based on grouping of minerals into those in deficient supply and those in exportable surplus.

15. Necessity of providing stocks of certain important national defense minerals now lacking in the U. S. is pointed out.

16. Mineral tariff policy and reciprocal tariff agreements should be considered in the light of occurrence and extent of domestic reserves.

17. Government should continue to seek equality for American nationals in the development of needed supplies abroad.

a commodity selling at several cents a pound are extraordinarily fluid, and except for freight and tariff differentials, the price of copper is a world price. Competition from foreign sources is keen, so keen, in fact, that American copper producers have found it impossible to realize the full advantage of the import duty adopted in 1932. In the domestic field there remains a large reserve of high-cost capacity waiting for a chance to break into the market. Further, the consumer of copper has his own weapons. The scrap which he produces makes him a seller as well as a buyer of the metal. Copper is practically indestructible, and the total supply is cumulative. With minor exceptions, the fabricated product comes back in time for remelting and reuse. An advance in the producer's price must reckon with this flood of scrap. Again the consumer has the alternative of substitution. All these factors work to protect the consumer against any un-

reasonable advance in copper prices to a degree far greater than is true of most lines of manufacture.

On the other hand, the consequences of uncontrolled competition are far more serious in copper than in general manufacturing. Violent price fluctuations lead to excess capacity. New mines are opened, extensions are projected into the lower grade ore bodies of existing mines, and the capacity thus created in response to the high price may be left high and dry before systematic extraction of the ore body is complete. In all industries such stranded capacity results in capital loss, but in copper it also involves peculiar hardship to the mine workers and waste of the resources. The depression coming on the heels of the boom times has left thousands of miners wholly dependent on the mines and with no prospect of local employment. Decline of old metal-mining camps is often inevitable, but social welfare demands that the hardships on the min-

ing population be lessened wherever possible. In the desert camps the very water supply itself may disappear when the mine closes.

Not least important, these fluctuations in price and output lead to serious waste of the resource. Mining efficiency and resource recovery require orderly and continuous operation and are handicapped by violent change in demand. Existing mines were laid out with a certain price level in mind and with a certain anticipated life. When prices collapse, the initial plan of operation must all too often be discarded. Today mine operators are driven to neglect the most elementary work of maintenance. They are driven reluctantly to practice "selective mining"; that is, to take only the richest portions of the ore body, abandoning the attempt to recover the associated lower-grade material. This practice of gutting the mine or "picking the eyes out" reduces the average value of the ore left behind and at the same time increases future cost of recovering it, through caving and flooding of the workings. Again, mine owners are forced to take out the pillars previously left for support, when they contain bodies of high-grade ore, thereby allowing old stopes and levels to cave. As the shutdown continues, the damage grows progressively worse. Shafts and main haulage-ways collapse. Barren rock and ore are crushed and mixed together, making future separation difficult or impractical. In the great shrinkage stopes used in some mines waste rock mingles with the broken ore, diluting the metal content of the product and greatly increasing the cost. In Michigan and elsewhere mines are filling with water. The conditions cited are not imaginary. They are actually going on in many once-famous mines, and taken together they act to endanger resumption of mining and to raise future costs. The increase in cost cannot be estimated closely. It depends on conditions and on the time that may elapse before attempting to resume production. But any mining man can visualize conditions where the unit cost of later reopening and recovering the rest of an abandoned ore body might be 50 percent, 100 percent, or 200 percent more than the cost if the same ore had been taken out in one continuous operation under the original plan of development. If the present shut-down of our copper mines continues for many years more, there will be huge tonnages of ore hitherto counted as 10-cent or 12-cent copper that will actually cost 15 cents or 17 cents.

Recommendations as to Production Control: The committee is not prepared at this time to recommend either to the copper producers or to the public a copper cartel following the European plan, with full control of price, output, capacity, and other elements of supply. If such a system of control is to come in the United States, time must be allowed for experiment with less ambitious schemes and for development of a larger body of experience both in the technique of industry operation and of public su-

pervision, under the very different conditions of American life.

But the committee would urge leaving the way open for experiment in these lines under public supervision and with provisions that will at once safeguard the rights of labor and clarify its responsibilities. We would urge that the problem of economic stability in the copper industry is essentially international and that joint action by American producers and foreign producers may often be needed. In the past this has sometimes been done indirectly through an export association operating under the Webb-Pomerene Act. In the future more direct collaboration will be necessary, and if adequate supervision by public authority is provided, such collaboration should be encouraged as in the public interest.

In addition, the committee offers the following recommendations.

(1) Full and complete statistics should be provided covering all factors of supply and demand, including consumption and consumers' stocks as well as production and producers' stocks, and including scrap as well as virgin metal. Such market information should be deposited with one of the permanent Gov-

ernment mineral fact-finding agencies. The basic data should be compiled in the form of totals or aggregates and published promptly for the use of both consumer and seller. The collection of such statistics should proceed with the closest cooperation of the trade organizations most interested.

As with copper, the committee concludes that the formulation of specific plans should originate with the industry. We would suggest for immediate consideration, however, (1) development of better statistics of secondary lead to supplement the market information services already available for this industry; (2) establishment of consumption forecasts, to be made by a Government agency, such as the Bureau of Mines, in cooperation with producers and organized consumers; and (3) joint action by the industry under public supervision to control the accumulation of excess stocks.

6. ZINC

The economic problems of the zinc industry have much in common with those of copper and lead. As with the



Dr. C. K. Leith

ernment mineral fact-finding agencies. The basic data should be compiled in the form of totals or aggregates and published promptly for the use of both consumer and seller. The collection of such statistics should proceed with the closest cooperation of the trade organizations most interested.

(2) Forecasts of consumption should be made by a public agency in collaboration with representatives of both producers and consumers as outlined in Section II.

(3) Some limitation should be imposed on the piling up of surplus stock. It is assumed that the emergency control under the present NRA code will in time reduce stocks to manageable proportions. Thereafter we recommend limitation of stock accumulations by joint action of the trade, under supervision of public authority. If such joint action by the industry is forbidden by the anti-trust

companion metals of the nonferrous group, the United States is the world's largest producer and consumer of zinc, but the American industry has felt the weight of the depression more heavily than operators in other countries. The zinc industry has been more successful in avoiding the accumulation of excessive stocks than have copper and lead, but the adjustment has been accompanied by acute unemployment, stranded mining communities, and permanent loss of substantial quantities of low-grade ore.

Production Control in the Zinc Industry: Provisions in the Zinc Code, now pending before the NRA, may result in the formulation by the industry of plans to control production, especially in the Tri-State area. As already indicated, some plan for the more orderly adjustment of supply to market needs is in the public interest. The committee believes that some authority to encourage the submission of such plans by the industry and to give the necessary approval and public supervision, should be continued after expiration of the Recovery Act. The need of cooperative action is likely to continue. Substantial improvement in the zinc industry depends upon the revival of general business and recovery of metal prices. A return to pre-depression prices probably cannot be expected, for the domestic price is controlled by the London price, plus a differential of about 1½ cents owing to the tariff, and excess productive capacity abroad makes low world prices probable for some years to come. It may prove wise to encourage collaboration of the American industry with the International Zinc Cartel under supervision of a public agency, in the way we have already sketched for copper.

As in the case of other nonferrous metals, the committee suggests for immediate consideration the issue of periodic forecasts of consumption. Such forecasts, made by an established Government agency in collaboration with operators and trade organizations, should be vitally useful in effecting a better balance of production and consumption. Joint action to limit the accumulation

of excessive stocks may also be desirable, if the industry desires the cooperation of the Government to accomplish this end.

7. CONCLUSIONS AS TO PRODUCTION AND CAPACITY CONTROL IN THE MINERAL INDUSTRIES

After careful study of the varying conditions in the coal, oil, copper, lead and zinc industries, and of certain others to which specific reference is not here made, the committee makes the following general recommendations for permissive control of production and capacity, where resource waste is shown to be serious, and where control offers hope of reducing the waste.

(1) The bituminous coal, oil, copper, and lead codes and the proposed zinc code, all contain provisions permitting the industry to control competition in one way or another, under Federal supervision. So far as controls have been used, the benefits seem to warrant continuance of some such provisions, after June, 1935. For bituminous coal and oil, the case for permitting control



W. C. Mendenhall

essary, as in the case of coal mining, to authorize minimum and maximum prices, and to supervise the operation of such control. If necessary, the anti-trust laws should be specially amended to permit such action. In framing such legislation due regard should be had for the competitive interrelations of coal, oil, gas and water power and of the nonferrous metals.

(4) Authorization of any such system of control by the producers in an industry should be made contingent upon acceptance of whatever safeguards are deemed necessary by Congress to protect the mine workers and the consuming public, and upon assurance by the industry concerned that action will be taken to minimize resource waste.

(5) The committee makes no specific recommendations as to which agencies of the Government should be designated to administer the plan. The legislation necessary might take the form either of a separate act applicable to a single industry or of a general enabling act applicable to the natural resource industries as a group. In the case of bituminous coal and petroleum, it seems likely that separate acts might be preferred, to provide for special problems peculiar to these industries, such as the purchase of marginal mines, or the establishment of crude-oil quotas. In the case of copper, lead, zinc, etc., the general enabling act might be preferred, leaving each industry to avail itself of the act and propose a plan of control should conditions so require.

(6) Experience under the NRA codes has shown the importance of flexibility and administrative discretion. We suggest, therefore, that the choice of the particular method of control in a given case should be left to the administrative agency in council with the industry concerned, selecting from whatever methods may be authorized by Congress the ones best suited to the conditions of the industry. This would leave room for modification of the method of control in the light of experience and of judicial interpretation. A plan of control once approved, however, the powers of the administrative agency to require compli-



J. W. Finch

is clear. For copper, lead and zinc, the case is not so evident, but conditions are serious enough to warrant some modification of the rule of unlimited competition after the expiration of the National Industrial Recovery Act.

(2) While control of production and capacity by most industries is impracticable, except perhaps in emergencies, such control is in the public interest where destructive competition causes serious waste of an irreplaceable resource and endangers living standards of the mine workers, whose isolation, relative immobility, and hazardous life, merit special consideration. In the special case of coal mining provision for minimum and maximum prices may also be justified.

(3) This committee recommends the consideration of action by Congress empowering an appropriate agency, or agencies, where resource waste and depression of mine labor standards are found to be serious, to authorize systems for the control of output or capacity, or both of them, and where nec-



J. W. Furness

ance should be made as clear and as complete as the constitutional powers of the Federal Government permit.

(7) In general we recommend the selection of methods which leave a considerable field of competition among producing units in order to avoid the artificial maintenance of high-cost marginal enterprises.

TAXATION

THE heaviest burden of taxation on mineral industries is imposed by the states, counties and townships.

Most of the states have ad valorem taxes, both on active mineral properties and on mineral reserves. The reserves are taxed annually for indefinitely long periods before coming into production. In some states the ad valorem tax is based on a larger proportion of true value than for other classes of property. In addition there is, in some jurisdictions, a multiplying group of special taxes on minerals, called "tonnage taxes," "severance taxes," "occupation taxes" and "royalty taxes." There are other special taxes on smelting, refining and distribution. Some of the states have corporate income taxes. It is claimed by some mining companies that the cumulative effect of these measures is to burden minerals with a load of taxation heavier than other classes of property, in certain cases so heavy that it is said to approach confiscation.

The reason for this heavy burden, where it exists, lies partly in the growing feeling that natural resources are a heritage of the people and that the public has certain special rights in them, regardless of their private ownership. Another reason is that so many of the large mineral properties are in absentee ownership. The taxation trend reflects in some cases an indirect effort to reacquire natural wealth which has passed into private ownership. Reinforcing these philosophical considerations is the very practical point that mines and minerals cannot escape heavy taxation by moving away, and that their value often bulks large in relation to other local property. Under these conditions, local taxing bodies, in need of more revenue, find it difficult to exercise restraint.

Of all taxes on minerals, the one which is most likely to be anti-conservation is the ad valorem tax collected annually by the states on all minerals whether in production or in reserve. The effects of this tax are cumulative and some of them are only beginning to be recognized. Owners of mineral reserves are driven to open mines in order to provide income enough to meet their taxes, and the ad valorem tax has been one of the causes of overdevelopment of mine capacity, especially of the coal mines. It has a tendency to force selective mining with attendant loss of low-grade material. It handicaps the orderly development and extraction of the miscellaneous grades to be found in most mineral districts. It puts a premium on the use of methods of extraction which cost the least, regardless of the fact that these methods often involve the permanent destruction or locking up of important reserves costing

more to extract. Moreover the valuations on which ad valorem taxes are based are largely matters of personal judgment requiring highly experienced appraisers, and it is not surprising that there should be enormous disparities of tax between individual properties and between taxing divisions and between states.

Another major result is just now looming up. It is becoming apparent that by the time many of our great mineral reserves reach the stage of production they will have accumulated a charge of original cost, taxes and compound interest far beyond any possible return from operation. This is particularly true of the coal, iron and other extensive bedded deposits. Where the reserves were acquired for speculative purposes, this result certainly need cause no public concern, but in some cases it seems to apply to mineral holdings no greater than were thought reasonable at the time of acquisition in order to assure raw materials for the use of associated mills and furnaces. In short, the policy of acquiring reserves necessary for prudent planning of mining operations and for protection of capital investments in the manufacturing based upon them, so generally followed by American industry, may sometimes prove to be an economic impossibility with existing taxation. Already there has been the beginning of a reversal of the process in the cancellation of leases and in default of taxes. Future reversion of reserves to the states on a considerable scale seems not unlikely. It is clear that some of the very large accumulations of reserves under unit commercial control must be either dispersed among many private owners capable jointly of carrying the load or that part at least will have to go back to public ownership.

The full significance of the relation between mineral taxation and the public interest in conservation has just begun to be recognized and has not been the subject of sufficiently detailed examination and discussion to warrant any individual or group in making any recommendation as to public policy. In fact, primary data, needed for careful analysis of many questions involved, have not yet been assembled and your committee merely calls attention to the problem as one affecting conservation.

HEALTH AND SAFETY

THE sheer human tragedy of mine disasters with their heavy loss of life is the overwhelming case for an effective mine safety program. Those who have seen the anguish in the faces of relatives stolidly waiting at the tipple for news of husbands and brothers entombed below know the urgency of adequate Federal efforts to reduce the human toll of the mines.

Aside from the question of conserving human life and preventing suffering, mine accidents and unhealthy conditions increase the cost of producing mineral raw materials. Recent data indicate that 10 or more percent of the mine cost of producing coal or ore is due to various factors entering into accident occur-

rence; in the bituminous coal industry alone this amounts to between \$30,000,-000 and \$50,000,000 per year. If already known and available improved safety methods and measures could be put into general use, the burden of accident expense could probably be reduced to as low as 1 or 2 percent of mineral production costs. The investment of a small fraction of the annual losses in workers' income and the increased mine costs in a larger program to curtail preventable accidents and ill health holds possibilities of at least a hundredfold return. In the United States the Federal Government, through the Bureau of Mines, has led the mine safety campaign through extensive educative and cooperative safety programs, by training hundreds of thousands of miners in safety and first-aid practices, by the indirect improvement of mine machinery to exclude unsafe features and by constant investigations and research to point the way to improved safety practices.

Over a period of 23 years the three-fold cooperative efforts of mining companies, the states and the Federal Government have saved the lives of 24,300 coal miners and eliminated 50,000 annual non-fatal accidents. Organized safety work received its impetus following the 5-year period 1906-10 when there were 84 major coal mine disasters and when coal mine fatalities reached the shocking total of 13,288, or a fatality of 5.89 persons killed per million tons of coal produced. Congress reacted to this situation by establishing the Bureau of Mines in 1910 which has constantly led the pioneer work on behalf of greater mine safety. The success of this movement can be measured by the decline of the coal mine fatality rate from the high levels of 1906-10 to 3.31 accidental deaths per million tons of coal produced in 1931, 3.36 in 1932 and to 2.69 deaths (preliminary figure) in 1933. If the 5.89 fatality rate for the early period had continued to the first of January 1934, the lives lost would have been 24,300 more than the number recorded. Similar figures as to prevention of nonfatal accidents are not available, but it is estimated that there are about 50 non-fatal accidents to 1 fatality and that about 50,000 non-fatal accidents a year have been avoided.

Knowledge of how to avoid the special hazards of the mine is not in itself enough; special efforts must be taken to make this information effective by constant education and reeducation of the operator and mine laborer. The ordinary mine worker reads but little and remains in ignorance of surrounding risks unless some central educational agency, capable of successfully reaching into hundreds of widely scattered mining camps throughout the country, is kept functioning. Education is also needed to promote closer correlation of state laws and regulations on mine safety, as well as to point out any inadequacies in present codes.

The need for accident and health work in mines is urgent and ever pressing.

(Continued on page 62)

MINING EVENTS

Coal

THE COAL INDUSTRY had a better year in 1934 than 1933.

Operators on the whole are satisfied with the bituminous coal code. Wages have been increased, but on the other hand, the price fixing provisions of the code have almost stopped ruinous price cutting which harassed the industry for years, even during periods of general business prosperity.

Total bituminous production for 1934 is estimated at 355,000,000 tons compared with 327,940,000 in 1933; 305,667,000 in 1932, the low point; 534,988,593 in 1929; 573,366,985 in 1926, the year of the British mine strike.

Bituminous coal production in the United States for the week ended January 12 was approximately 7,700,000 net tons. Production for the corresponding week: 1934, 7,380,000 tons; 1933, 6,877,000 tons.

The report of the Bureau of Mines shows production of 6,210,000 tons for the week ended December 29, 1934, and 7,215,000 for the week ended January 5, 1935.

Anthracite production for the entire year is placed at 57,000,000 net tons, against 49,399,000 tons in 1933; 49,350,000 for 1932; 73,828,000 in 1929 and 80,652,000 for 1927.

Stocks of anthracite and bituminous coal on hand in industry on January 1 will probably show an increase over the 31,135,000 tons reported at the beginning of 1934.

THE TOTAL production of anthracite (which includes colliery fuel) for the week ending January 12, as estimated by the United States Bureau of Mines, amounted to 1,201,000 net tons. This is an increase, as compared with production (revised) of the preceding week, of 93,000 net tons, or 8.4 percent. Production during the corresponding week in 1934, amounted to 1,683,000 tons.

long tons, a slight increase over the corresponding 1933 figure, while bituminous coal imports at 78,416 long tons registered a decrease of 38 percent. Coke imports at 115,491 long tons declined 6 percent, lignite at 4,112 long tons, 21 percent, while briquets dropped from 37,853 tons to only one ton.

The only important increases in imports were in slack and culm, mainly from Great Britain, which totaled 40,355 long tons in the 1934 period as compared with 24,529 tons in the first 10 months of last year.

Production of coal in Chile has shown marked improvement during the current year, according to advices from Consul Franklin B. Atwood, Santiago, made to the Commerce Department.

Based on the output in the first nine months, he states, it is estimated that Chilean coal production in 1934 will reach the record total of 1,730,000 metric tons, as compared with 1,538,000 in 1933, 1,080,000 in 1932, 1,100,000 in 1931, and 1,442,000 in 1930. The previous record output of coal, the report shows, occurred in 1924 when 1,539,000 tons were mined. The estimated value of Chilean coal has averaged 80,000,000 pesos per annum (approximately \$3,500,000) in recent years.

It is estimated that consumption of coal in Chile during 1934 will reach a total of 1,802,000 tons, of which 1,573,000 tons will consist of domestic coal.

Referring to Chile's coal export trade, the report shows that up to the end of 1932 this was insignificant, the total in that year amounting to only 31,000 tons. In the following year export sharply increased to 121,000 tons while estimates place total coal exports in the current year at 157,000 metric tons. Among the principal purchasers of Chilean coal are Argentina, Peru, and Bolivia.

AN INTERESTING announcement is that of the formation of a marketing agency.

| | ESTIMATED PRODUCTION OF ANTHRACITE (Net Tons) | | | |
|--|---|---------------|------------------------------------|---------------|
| | 1934-35 | | 1933-34 | |
| | Week | Daily Average | Week | Daily Average |
| December 29 | 908,000 | 181,600 | 950,000 | 190,000 |
| January 5 | *1,108,000 | 221,600 | 1,393,000 | 278,600 |
| January 12 | 1,201,000 | 200,200 | 1,683,000 | 280,500 |
| Calender year to January 12, 1935..... | 2,309,000 | | Coal year to January 12, 1935..... | 40,973,000 |
| Corresponding period, 1934..... | 3,076,000 | | Corresponding period, 1934..... | 39,818,000 |
| Decrease, 767,000 tons, or 24.9%. | | | Increase, 1,155,000 tons, or 3.0%. | |

* Revised.

UNITED STATES export trade in coal registered substantial improvement during the past year, according to figures compiled in the Commerce Department's Minerals Division.

During the first 10 months of 1934, exports of anthracite totaled 948,133 long tons, an increase of 23 percent over the corresponding period of 1933; bituminous exports rose to 8,217,619 long tons in the 1934 period, an increase of 24 percent, while exports of coke at 717,224 long tons showed an increase of 51 percent.

Imports of anthracite during the first 10 months of 1934 amounted to 351,002

Independent anthracite operators who in 1934 marketed 11,300,000 tons have banded together in a marketing organization to be known as Independent Coals, Inc.

The new organization is intended to effect an orderly distribution of anthracite and relieve the plethora of coal that in recent months has been flooding eastern markets and causing reduction in prices especially by independents. Members of the organization will have contracts executed through the new organization.

Donald Markle, Markle Coal Co., was named temporary president.

AMENDMENTS to the bituminous coal code which would maintain price fixing were introduced at public hearing January 4 by both NRA and members of the industry. The industry proposal would make it an unfair trade practice to make a contract to sell, under the fair market price, regardless of the dates specified for making delivery. It also would provide for agencies to determine such price.

NRA's amendment would provide that no sale or contract to sell coal would be made "at any price less than the fair market price thereof, determined as hereinafter provided, at the date of the offer, sale or contract to sell as the case shall be."

The amendment further states: "The determination of stated minimum prices for coal until and including June 16, 1935, is necessary to mitigate the conditions instituting such emergency and to effectuate the purposes of the act. The National Industrial Recovery Board through such agencies as it may designate, shall investigate costs and thereafter shall proceed to determine and publish such stated prices."

This amendment would place all price fixing directly under NRA jurisdiction.

FOllowing is the text of an order issued by the National Industrial Recovery Board affecting the Bituminous Code:

"The National Industrial Recovery Board announced approval of an amendment to the bituminous coal code providing that contracts, offers, or sales made now for future delivery may not be made at less than code prices.

"Because of the growth of a practice in the industry of making contracts for deliveries of coal on a date beyond the expiration of the National Industrial Recovery Act, June 16, 1935, the industry was faced with a state of emergency. The Board held a public hearing in Washington, January 4, to consider measures designed to end such practices.

"Action of the Board, it was pointed out, is not final. Further steps may be taken along this line to stabilize the industry. The amendment approved today is a clarification and a more exact definition of what the present section in the code intends.

"Text of the amendment is as follows:

"Delete Section 1 of Article VI and substitute in lieu thereof the following:

"Section 1—The making of a contract to sell or offer to sell coal, whether for immediate or future delivery, at a price below the fair market price at the date of such contract of offer (regardless of the dates specified for the making of deliveries), or any sale or delivery of coal (other than pursuant to contract made in accordance with the foregoing) below the fair market price thereof at the time of delivery, determined as hereinafter provided, is hereby declared to be an unfair competitive practice and in violation of this Code. Such fair market price shall be determined and established as hereinafter provided, and it shall be proper in determining such fair market price to consider the purposes

of the National Industrial Recovery Act, the minimum rates of pay herein established, the furnishing of employment for labor and the competition with other coals, fuels, and form of energy for heat production."

A BILL proposed by the United Mine Workers of America would declare the coal industry to be public utility and provide strict Federal regulation. The proposal is as follows:

"The special report of the National Resources Board is of major importance. It indicates comprehensive analysis and understanding of the problems of the bituminous coal industry by the members of the board.

"Anticipating this report and eager to cooperate with the administration in its forward policies, the United Mine Workers of America has completed the preparation of a bill for possible Congressional enactment embracing the principles and details of the National Resources Board's recommendations.

"This draft will be presented to the administration within the next few days and will constitute a basis for the reasonable regulation of the coal industry and the safeguarding of the public interest.

"The bill, which has been prepared by Mr. Henry Warrum, general counsel for the United Mine Workers, contains a Congressional declaration which gives the coal industry a utility status; sets up a commission to administer the standards and rules fixed by the Congress; provides for the fixation of minimum and maximum prices; provides for the allocation of production through tonnage quotas; provides for collective bargaining and reasonable standards of wages and hours and also for just and adequate returns to investors.

"While the associations of coal operators have not in any formal sense joined in the endorsement of the principles of this proposed legislation, we are assured that hundreds of substantial coal operators and leaders in the industry will join the United Mine Workers in urging its enactment.

"The report of the National Resources Board is particularly fitting, as it comes at a time when the industry is in conference attempting to chart its course for the future. Thus for the first time the coal industry can look forward to a reasonable expectation of emergence from its economic misery through the helping hand of an interested and sympathetic government."

THE National Industrial Recovery Board has issued a release containing a memorandum from the Consumers Advisory Board concerning recommendations for the revision of the National Industrial Recovery Act. The general trend of the report is in opposition to price fixing arrangements beyond the point that is necessary to protect the industry against cut-throat competition. However, it recognized that the natural resource industries are in a different situation because they alone present the problem of conservation. "It is unthinkable, therefore, that they should again be subjected to the Anti-Trust laws." Later on is the statement: "The natural resource industries are too vitally affected with a public interest to be turned over to what is called 'self-government

in industry.' They must be regulated by public agencies for the common welfare."

A TARIFF of \$4.00 a ton on all coal imports is proposed in a bill introduced in Congress by Representative Turpin, of Pennsylvania, as a means of reducing unemployment among the mining population, particularly in the anthracite region. The measure provides that the duty be collected "notwithstanding any treaty provisions." Mr. Turpin explained that this provision was inserted because of recent decisions by the Customs Court of Appeals invalidating a previous import of \$2.00 a ton on coal imports where "most favored nations" clauses were involved.

A SPECIAL legislative committee of 14 has been appointed by the Board of Directors, National Coal Association, in meeting January 16-17, for the purpose of drafting enabling legislation de-

NOAH AND THE DOVE



—Washington Post

signed to continue the Code for the Bituminous Coal Industry for a period of two years from the expiration date of the National Industrial Recovery Act. The committee, which will also study the needs of the industry which might be served by legislation, is composed of: C. T. Carney (Iowa subdivision); Brooks Fleming, Jr., (Northern West Virginia subdivision); J. D. Francis (Southern subdivision No. 2); George B. Harrington (Illinois subdivision); H. R. Hawthorne (Southern subdivision No. 1); R. E. Jamison (Western Pennsylvania subdivision); Fred S. McConnell (Indiana subdivision); H. C. Marchant (Division V); E. G. Mathiott (Northern Pan Handle of West Virginia subdivision); Charles O'Neill (Eastern subdivision); C. F. Richardson (West Kentucky subdivision); W. L. Robison (Ohio subdivision); W. C. Shunk (Division IV); and D. A. Thomas (Division III). The chairman is to be selected by the committee.

THE 89th semi-annual meeting of the American Chemical Society will be held at the Hotel Pennsylvania in New York during the week of April 22, 1935. This meeting will mark the 300th anniversary of the founding of chemical industry in the United States. It is estimated that attendance will reach the total of 10,000 persons.

Of particular interest to the anthracite industry is the fact that for the first time in the history of the society an entire session is to be devoted to the chemistry of anthracite. The papers in this session will deal with the properties and various phases of the utilization of anthracite, as well as studies of combustion equipment. The Anthracite Institute Laboratory will be well represented, and will present the results of some very interesting research. It may be safely stated that some startling new phases of combustion will be announced and discussed.

THE FOLLOWING important new publications have been issued: "The Thirty-Hour Week and the Bituminous Mining Industry," published by the National Coal Association, and supporting their contention that the imposition upon the industry of a compulsory maximum 30-hour week will impose upon the coal consuming public a large increase in its annual fuel bill, will inflict hardship upon mine operators, railroads and other agencies engaged in the production and distribution of coal, and will increase instead of decrease the percentage of idle time of the mine workers themselves.

"The Thirty-Hour Week," an analysis of this question, prepared by the Brookings Institution of Washington. This deals with the subject as it relates to all industries, concluding that "the measure would not promote national welfare" and "is as short-sighted as it is lacking in understanding."

"The Coal Industry and the Government's Hydro Electric Plants," an address by Dean E. A. Holbrook, School of Mines, University of Pittsburgh, published by the National Coal Association. This forcefully presents the proposition that the first and best source of power is coal, with particular mention of the TVA, the Loup River project, and the St. Lawrence.

A BULLETIN issued by the Bureau of Mines tells of the remarkable record of Weston Dodson and Company in eliminating accidents at its Oak Hill anthracite mine, at Oak Hill, Pa. The bulletin says:

"A million tons of coal mined in the Pennsylvania anthracite region without a fatality is a feat of which to be proud and one that deserves the commendation of the entire mining industry. The average production per fatality in this region for 1933 was 206,828 tons, an exceptional record showing the results of an intensive drive made by the Pennsylvania Department of Mines and the anthracite operators and workers to curtail the high accident rates heretofore prevailing in the region.

"This paper gives information about a mine with a record five times better than the average, which should prove to the industry that mine accidents can be reduced through the proper safety organization and effort. The Pine Hill Coal Company, managed by Weston Dodson and Company, Inc., and located at

Minersville, Schuylkill County, Pa., has made such a record at its Oak Hill colliery by studying its accident experience, realizing the facts, and pursuing a definite safety policy with a view to bettering its accident occurrence.

"As a direct result of its safety policy this colliery has produced 1,044,000 tons of anthracite without a fatality; within three years it has reduced its total accidents from 645 to 105 per year, its compensable accidents from 204 to 45 per year, and its lost-time accidents from 335 to 67 per year. In addition, it has set up a smoothly functioning safety organization that will go far in aiding in the continuance of this great work of mining anthracite at a lower cost in human suffering."

Gold and Silver

THREE silver bills were introduced in the House in the first three days of the first session of the Seventy-fourth Congress and numerous others are expected in both Houses. Those introduced include the 16-to-1 bimetallic measure of Representative Pierce (Ore.); a bill by Representative Dies (Tex.) (H. R. 2009) making all currency redeemable in silver and authorizing purchase of silver to meet this condition (which would provide for untold millions of ounces of white metal); a second bill (H. R. 2011) by Dies which would reduce the weight of the gold dollar by nearly three grains and the silver dollar from its present weight of 412.5 grains to 206.25 grains and to use the profit thus made for a domestic allotment fund for pushing sales of American agricultural surpluses abroad.

THOSE acquainted with Treasury doings are of the opinion that a change in the silver policy may be in the offing. It is definitely known that silver purchases abroad, especially from China, have slumped. To questions on whether the Treasury had heeded importunities of China, the reply was that the provisions of the Silver Purchase Act would be carried out. This statement, coupled with the fact that estimates for income from seigniorage for the coming fiscal year by the Treasury are \$6,500,000 as compared with \$62,500,000 the current fiscal year, indicates that profit from silver purchases next fiscal year are not expected to be heavy. This fact points to the possibility of some additional action affecting silver. There is some likelihood that a conference between the Treasury, the Executive and Senators and Representatives interested in silver will be called shortly.

THE Homestake mine, at Lead, Lawrence County, S. Dak., the largest producing gold mine in the United States, was operated continuously in 1934. The new 5,000-foot, 3-compartment, 13-foot by 19-foot Ross shaft, authorized November 30, 1932, was completed and placed in operation during 1934. For 1933, this company's report showed 1,432,195 tons mined; the proceeds from gold-silver bullion by amalgamation followed by cyanidation of sands and slimes and a small quantity of laboratory slag were \$12,900,317; the



Chas. F. Hamilton

12th ANNUAL COAL CONVENTION AND EXPOSITION COAL DIVISION

THE AMERICAN MINING CONGRESS

For the 12th consecutive year the annual May meeting for the coal industry has been scheduled for Cincinnati, Ohio, during the week of May 13, 1935. The sponsoring organization has announced the acceptance of Mr. Chas. F. Hamilton, Vice President, Binkley Coal Company, as National Chairman of the Program Committee. An industry-wide committee is now being selected and preliminary meetings of this group will be held in Chicago, Terre Haute, Columbus, Charleston, W. Va., and Pittsburgh.

The Exposition, which is sponsored by a group of 47 manufacturers of mining machinery and supplies, will hold its annual exhibit in conjunction with the Convention. At this date, February 1, 1935, these manufacturers have been assigned approximately two-thirds of all the space available at the Exposition. Everything points to a Convention and Exposition of great magnitude and importance. Further details on both the Convention and Exposition will be carried in the March edition of the Mining Congress Journal.

■ ■ ■

dividends paid were \$3,767,400. From 1876 to 1933, inclusive, this mine has yielded bullion and concentrates which brought a cash return of \$266,294,806 after freight, express, insurance, mint and smelter charges are deducted, and has paid \$66,420,682 in dividends. Dividends in 1934 were \$7,534,800.

THE CURRENT YEAR will mark the first increase in production of silver throughout the world to be shown in any year since 1929.

The American Bureau of Metal Statistics, in its monthly compilation of silver production, reports that a total of 15,308,000 ounces was produced throughout the world during November, as compared with 15,411,000 in October and 14,100,000 in November, last year. This brings the total world output for the first 11 months up to 164,253,000 ounces, compared with 147,744,000 ounces in the same period last year.

On this basis, the entire 12 months will show total production for the world of about 180,000,000 ounces, compared with 161,360,000 ounces last year and the peak of 261,511,985 ounces in 1929.

While production has been stimulated generally throughout the world by the higher prices prevailing, Peru showing a gain of 33.9 percent to lead in percentage gain, Canada increased its output only by 3 percent. Mexico, the world's largest producer, showed the largest actual gain of 5,910,000 ounces, but its percentage gain was only 9.4 percent despite the fact that Mexican silver, unlike that produced in the United States, is not a by-product, but is found alone instead of in company with other ores. Higher silver prices, therefore, would ordinarily be expected to show a much more rapid percentage advance in Mexican production than has actually occurred. The higher prices, however, and increased output, according to advices from Mexico, have brought considerable prosperity to mining areas.

The manner in which the leading producing areas have contributed to the general world increase is shown in the following table which compares the output for the first 11 months with the same period last year, in thousands of fine ounces:

| | 1934 | 1933 | Increase actual | In- crease per cent |
|---------------------------------|---------|---------|--------------------|---------------------------|
| United States.... | 23,524 | 19,393 | 4,131 | 21.3 |
| Canada..... | 14,130 | 13,712 | 418 | 3.0 |
| Mexico..... | 68,587 | 62,677 | 5,910 | 9.4 |
| Peru..... | 7,822 | 5,839 | 1,983 | 33.9 |
| Other America... Europe..... | 10,230 | 8,900 | 1,330 | 14.9 |
| Australia..... | 14,320 | 12,829 | 1,491 | 11.6 |
| World total.... | 164,258 | 147,744 | 16,509 | 11.2 |

GOLD PRODUCTION OF THE WORLD—1934
(In thousands of fine ounces)

| | Oct. | Nov. | Jan.- Nov. |
|--|-------|-------|---------------|
| United States (a)..... | 296 | 237 | 2,640 |
| Canada..... | 265 | 255 | 2,708 |
| Mexico..... | 62 | 53* | 598 |
| Colombia..... | 33 | 30* | 324 |
| Other South America..... | 67 | 67 | 658 |
| British India (d)..... | 27 | 27 | 293 |
| Japan (d)..... | 40* | 40* | 425 |
| Queensland..... | 10* | 10* | 103 |
| Western Australia..... | 53 | 57 | 596 |
| Other Australia, New Zealand and New Guinea..... | 42 | 43 | 445 |
| South Africa..... | 886 | 879 | 9,617 |
| Belgian Congo..... | 25 | 25 | 255 |
| Rhodesia..... | 59 | 59 | 639 |
| British West Africa (e)..... | 35 | 34 | 357 |
| Russia (b)..... | 300* | 300* | 3,235 |
| Elsewhere (c)..... | 127* | 130* | 1,291 |
| Total..... | 2,327 | 2,246 | 24,179 |

* Conjectural.

(a) Includes Philippines.

(b) Chiefly Siberia.

(c) Includes West Indies, Central America, Europe, and Asiatic and African lands not separately reported.

(d) Principal mines only, but nearly complete.

(e) Gold Coast Colony, Sierra Leone and Nigeria.

The November returns, which are substantially lower than for October, appear to reflect the seasonal contraction in the sub-Arctic countries. They do not materially alter our previous forecast that world's production outside of Russia will probably be about 400,000 ounces more in 1934 than in 1933, while Russia is expected to show an increase of something like 1,400,000 ounces.

Copper

"THE VOLUME of business in the copper and brass industry showed marked improvement during 1934, having registered an increase of more than 10 percent over that of 1933," according to B. B. Caddle, secretary of the Copper & Brass Research Association. "The outlook for a substantial gain in 1935 is most encouraging," he said.

"During the Christmas holidays manufacturers of giftware articles and cooking utensils enjoyed the largest volume of sales since the 'boom days.' As a matter of fact, these manufacturers operated their plants day and night for many weeks prior to the holidays to meet requirements. Increased sales of copper and brass materials in the automobile, building, electrical and other industries are anticipated during 1935."

GOLDILOCKS NEVER KNEW WHAT SUSPENSE WAS!



—Washington Daily News

THE salient features of the copper industry in 1934, as indicated by preliminary figures, were as follows: Smelter production from domestic ores continued at a very low level and amounted to 6 percent more than the output in 1933 which was the lowest recorded since 1895. Refinery production from domestic ores was slightly lower than in the preceding year while that from foreign ores increased 67 percent and was nearly equal to the output from domestic sources. Imports of unmanufactured copper for 11 months indicate that the total for the year will be 59 percent higher than those for the preceding year. Approximately 90 percent of the imports for both years was imported under bond for smelting, refining and export. Exports of metallic copper for 11 months show that total exports for the year will be about double those for 1933. Stocks of refined copper at primary refineries declined about 30 percent, those of blister and unrefined copper at smelters and in transit to refineries and at refineries fell 8 percent, and total stocks of refined and unrefined copper were about 23 percent below those on hand at the end of 1933. Apparent domestic consumption in 1934 declined about 10 percent from 1933.

The average quoted monthly price of copper (electrolytic, f. o. b. refinery) was 7.9 cents a pound in January, 1934. It remained at virtually the same level until April when it began to rise in anticipation of the approval of the copper code, which was signed April 21 and became effective April 26, 1934. The average monthly price for April was 8.2 cents, for May 8.3 cents, and for June 8.6 cents. From June 14 until the end of the year the average price for Blue Eagle copper (copper produced and sold under conditions laid down by the Code Authority), delivered Connecticut points, was 9 cents a pound, equivalent to 8.775 cents a pound f. o. b. New York refinery.

In 1933 the average monthly price for copper was 4.775 cents a pound in January from which it rose without interruption until the high for the year of 8.77 cents was reached in August. From the August peak the price declined and in December was 7.885 cents.

The smelter production of copper from domestic ores in 1934 as determined by the Bureau of Mines from reports of the smelters showing actual production for 11 months and estimated production for December was 476,000,000 pounds, an increase of 6 percent over the output of 449,999,143 pounds in 1933 which represented the smallest production recorded since 1895. The estimated smelter production from domestic ores for December, as reported by the smelters, was approximately about 40,000,000 pounds, which is approximately the average reported for the 11 months preceding.

The production of new refined copper from domestic sources, determined in the same manner as smelter production, was about 462,600,000 pounds, compared with 481,300,000 pounds in 1933. The output of new refined copper from domestic and foreign sources in 1934 amounted to about 897,600,000 pounds, compared with 741,578,552 pounds in 1933, an increase of 156,000,000 pounds or 21 percent. The production of secondary copper by primary refineries increased from 171,038,292 pounds in 1933 to about 248,000,000 pounds in 1934. Thus the total primary and secondary output of copper by the refineries in 1934 was 26 percent higher than in the preceding year—a production of about 1,145,600,000 pounds being reported for 1934 as compared with 912,616,844 pounds in 1933.

Imports of unmanufactured copper for consumption during the first 11 months of 1934, according to the Bureau of Foreign and Domestic Commerce, amounted to 368,673,292 pounds—a monthly rate of 33,500,000 pounds. This compares with total imports for consumption of 253,263,102 pounds for the entire year 1933—a monthly rate of 21,000,000 pounds. Imports in November, 1934, totaled 36,970,681 pounds. The total imports for 1934 will very likely show an increase of approximately 149,000,000 pounds for the year, or of about 59 percent. In both 1933 and 1934, 90 percent of the quantities shown was imported under bond for smelting, refining and export.

The exports of metallic copper during the first 11 months of 1934 amounted to 544,211,437 pounds compared with 303,825,790 pounds exported during the entire year 1933. It is likely that the total for the entire year 1934 will be nearly double that for 1933. Included in the above figures for the first 11 months of 1934 are 482,670,876 pounds of refined copper in ingots, bars and other forms. Of this quantity, France received 104,615,428 pounds, the largest amount, followed closely by Japan with 104,214,654 pounds. United Kingdom was third with 75,589,948 pounds; and Germany was fourth with 69,703,818 pounds. In the entire year 1933 France received the largest quantity, 72,855,294 pounds; Germany was next with 34,762,322 pounds; Italy was third with 30,037,514 pounds; and Japan fourth with 28,158,249 pounds.

Refineries estimated that at the end of 1934 approximately 568,000,000 pounds of refined copper would be in stock, a 30 percent decrease from the reserve of 813,000,000 pounds at the end of 1933. It is estimated that stocks of blister copper at the smelters, in transit to refineries, and materials in process of refining, would be about 356,000,000 pounds on December 31, compared with 388,000,000 pounds at the

end of 1933, a decrease of 8 percent. Total smelter and refinery stocks at the end of 1934 were 924,000,000 pounds, representing a decrease of 277,000,000 pounds, or 23 percent, from stocks at the end of 1933.

The quantity of new refined copper withdrawn on domestic account during the year was about 614,000,000 pounds, compared with 678,700,000 pounds in 1933, a decrease of nearly 65,000,000 pounds or 10 percent. The method of calculating domestic withdrawals is shown as follows:

AN INCREASED Government subsidy on exported copper is being sought by South African copper interests, according to United States Acting Commercial Attaché E. B. Lawson, Johannesburg. This industry, which is concentrated at Messina in the Northern Transvaal, it is pointed out, now enjoys a 7 percent subsidy on copper exports but this rate is not considered high enough to permit continuous operations at the present level.

Although mine authorities have not specified the amount of the increase in

The Messina copper mine, the report shows, employs 275 Europeans and 3,000 natives. Considerable importance is attached to this enterprise as the principal traffic of a part of the railway system is derived from the mine and its employees. It is understood that the commission has reported its findings to the government but no announcement of the government's decision has yet been made.

COPPER IMPORTS AND EXPORTS

(As reported by the Bureau of Foreign and Domestic Commerce and assembled by the American Bureau of Metal Statistics; in tons of 2,000 lbs.):

UNITED STATES

| Imports | 1934 Nov. | 1933 Jan.-Nov. |
|-------------------------|--------------|-------------------|
| Ore conc., etc.* | 1,458 | 23,476 |
| Canada | 789 | 6,401 |
| Mexico | 12 | 94 |
| Chile | 610 | 8,558 |
| Peru | ..... | 6,940 |
| Other countries | 18 | 226 |
| Unrefined, etc. | 10,687 | 96,391 |
| Canada | 1,365 | 7,278 |
| Mexico | 3,642 | 37,662 |
| Chile | 3,051 | 12,184 |
| Peru | ..... | 22,133 |
| Africa | ..... | 12,599 |
| Jugoslavia | 2,629 | 4,428 |
| Other countries | ..... | 7 |
| Ref. ingots, bars, etc. | 5,040 | 5,431 |
| Mexico | ..... | 56 |
| Chile | 5,040 | 5,430 |
| Other countries | ..... | 1 1 |
| Old and scrap | 75 | 126 |
| Exports | ..... | 206 |
| Ore, conc., etc.* | 1736 | 122,592 |
| Unrefined, etc. | ↑ | ↑ |
| Ref. ingots, bars, etc. | 25,685 | 110,071 |
| Mexico | 261 | 1,668 |
| Chile | 1 | 2 |
| Belgium | 815 | 6,365 |
| France | 5,205 | 31,591 |
| Germany | 2,169 | 14,340 |
| Great Britain | 4,742 | 12,261 |
| Italy | 3,387 | 13,322 |
| Netherlands | 252 | 3,277 |
| Sweden | 790 | 5,585 |
| China and Hong Kong | 284 | 2,738 |
| Japan | 6,508 | 13,348 |
| Other countries | 1,271 | 5,574 |
| Old and scrap | 517 | 13,092 |
| France | 11 | 2,114 |
| Germany | 112 | 4,288 |
| Netherlands | 631 | 779 |
| Japan | 62 | 3,156 |
| Other countries | 332 | 2,903 |
| Brass, scrap and old | 1,898 | 14,505 |
| Pipes and tubes | 45 | 359 |
| Plates and sheets | 821 | 497 |
| Rods | 1,087 | 7,647 |
| Wire except insulated | 519 | 1,213 |

* Content. ↑ Unrefined or blister copper is included with "Ore concentrates, etc." Reclassified by A. B. M. S.

Iron

THE IRON ORE mined in the United States in 1934, exclusive of ore that contained 5 percent or more manganese in the natural state, is estimated by the United States Bureau of Mines at 24,889,000 gross tons, an increase of 42 percent as compared with the quantity mined in 1933. The ore shipped from the mines in 1934 is estimated at 25,995,000 gross tons valued at \$67,103,000, an increase of 6 percent in quantity and 5 percent in total value compared with the figures for 1933. The average value of the ore per gross ton at the mines in 1934 is estimated at \$2.58; in 1933 it was \$2.59. The stocks of iron ore at the mines, mainly in Michigan and Minnesota, decreased 5 percent from 10,953,021 gross tons in 1933 to 10,387,000 tons in 1934.

NEW REFINED COPPER WITHDRAWN FROM TOTAL YEAR'S SUPPLY ON DOMESTIC ACCOUNT, 1933-1934, IN POUNDS

| | 1933 | 1934 |
|---|---------------|---------------|
| Refinery production of new copper from domestic sources | 481,300,000 | 462,600,000 |
| Refinery production of new copper from foreign sources | 260,200,000 | 435,000,000 |
| Imports of refined copper (December, 1934, estimated) | 10,900,000 | *15,400,000 |
| Stocks of new refined copper on January 1 | 1,004,000,000 | 813,000,000 |
| | 1,756,400,000 | 1,729,000,000 |
| Exports of refined copper (Ingots, bars, rods or other forms) (December, 1934, estimated) | 264,700,000 | 547,000,000 |
| Stocks December 31 | 813,000,000 | 568,000,000 |
| Total withdrawn on domestic account | 1,077,700,000 | 1,115,000,000 |
| * Imports for consumption in 1934. | 678,700,000 | 614,000,000 |

COPPER CONSUMPTION IN FOREIGN COUNTRIES

DELIVERIES of copper for consumption outside of the United States, computed according to the conventional formula in short tons. (According to the American Bureau of Metal Statistics):

| | 1934 | | |
|---|-------------------|--------|---------------------------|
| | 1932* | 1933* | Number of months reported |
| | Average per month | | Average last 3 months |
| Europe, Asia, Etc. | 59,854 | 69,032 | 83,563 |
| Canada | 2,205 | 2,673 | 3,900 |
| Total in terms of new copper | 62,059 | 71,705 | 87,463 |
| | | | 90,349 |
| Great Britain | 10,958 | 12,092 | 18,015 |
| France | 7,924 | 9,025 | 7,571 |
| Germany | 11,433 | 14,159 | 19,801 |
| Italy | 4,425 | 5,041 | 4,521 |
| Japan | 6,014 | 6,875 | 8,862 |
| Austria | 533 | 516 | 694 |
| Czechoslovakia | 1,067 | 1,083 | 1,265 |
| Hungary | 489 | 476 | 581 |
| Netherlands | 230 | 358 | 412 |
| Poland | 362 | 591 | 914 |
| Sweden | 1,642 | 2,475 | 2,992 |
| Switzerland | 967 | 1,234 | 1,180 |
| Other Europe | 6,838 | 6,824 | 6,800† |
| Elsewhere | 1,417 | 1,876 | 1,800† |
| Total metric tons | 54,299 | 62,625 | 75,808 |
| Total short tons | 59,854 | 69,032 | 83,563 |
| Computations of 1 month ago (short tons) | ..... | 83,563 | 84,749 |
| Computation of 2 months ago (short tons) | ..... | 83,334 | 81,664 |
| Computations of 3 months ago (short tons) | ..... | 82,789 | 81,853 |
| Computations of 4 months ago (short tons) | ..... | 84,282 | 86,193 |
| Computations of 5 months ago (short tons) | ..... | 84,487 | 89,036 |
| Computations of 6 months ago (short tons) | ..... | 83,720 | 89,383 |
| | | | 84,718 |

* Monthly average for the year as per A. B. M. S. annual. † Estimated.

SENATOR ASHURST again introduced the measure he sponsored in the last Congress, providing for the purchase by the RFC of \$200,000,000 of surplus domestic copper, to be held for governmental use. The bill (S. 487) was referred to the Senate Mines Committee.

subsidy desired, Lawson states that it is hoped it will be increased to 15 percent, the same figure which was recently granted to the Natal wattle industry. A commission of inquiry, appointed by the government, recently visited Messina to study the copper situation.

About 85 percent of the iron ore shipped in 1934 came from the Lake Superior district, in which approximately 21,365,000 gross tons were mined and 22,119,000 tons were shipped, increases of 46 and 3 percent, respectively, compared with the quantities mined and shipped in 1933. The ore shipped in 1934 was valued at the mines at \$59,940,000, an increase of 3 percent. These totals include the ore shipped by rail as well as by water from all mines, but exclude manganeseiferous ores amounting to approximately 198,000 gross tons in 1934 and 178,167 tons in 1933 that contained 5 percent or more manganese in the natural state. The stocks of iron ore in this district decreased from 9,955,418 gross tons in 1933 to 9,736,000 tons in 1934, or 2 percent. The shipments of iron ore by water from the Lake Superior district in 1934 (including manganeseiferous iron ores), according to the Lake Superior Iron Ore Association, amounted to 22,249,600 gross tons, an increase of 3 percent compared with these shipments in 1933. The average value of the ore at the mines in the Lake Superior district in 1934 was \$2.71 a ton; in 1933 it was \$2.72.

The Southeastern States, in which the Birmingham district is the largest iron-ore producing area, mined approximately 2,319,000 gross tons of iron ore in 1934, an increase of 7 percent compared with 1933. The shipments of iron ore from mines in these states in 1934 amounted to 2,670,000 gross tons, valued at \$4,262,000, increases of 22 and 29 percent, respectively, in quantity and value compared with 1933. The average value of the ore produced in these states in 1934 per gross ton was \$1.60; in 1933 it was \$1.51. The stocks of iron ore at the mines in this group of states, mainly in the Birmingham district, decreased from 785,727 gross tons in 1933 to 434,000 gross tons in 1934.

The Northeastern States, which include the Adirondack district, New York, and the Cornwall district, Pennsylvania, in 1934 mined 926,000 gross tons of iron ore, an increase of 134 percent over 1933. The iron ore shipped from mines in these states amounted to 927,000 tons, valued at \$2,539,000, increases of 65 and 61 percent, respectively, in quantity and value compared with 1933. The stocks of iron ore in this group of states increased from 199,711 gross tons in 1933 to 205,000 tons in 1934. The average value of the ore in these states in 1934 per gross ton was \$2.74; in 1933 it was \$2.82.

In 1934 Utah, Washington, and Wyoming mined and shipped 279,000 gross tons, valued at \$362,000.

The imports of iron ore reported for the 11 months ended November 30, 1934, amounted to 1,354,827 gross tons, valued at \$3,155,367. The imports for the year 1933 were 861,153 gross tons, valued at \$2,054,312. The reported exports of iron ore for the 11 months ended November 30, 1934, amounted to 608,820 gross tons, valued at \$2,240,006, compared with exports for the entire year 1933 of 155,271 tons, valued at \$646,533. These statistics of imports and exports were compiled from the records of the Bureau of Foreign and Domestic Commerce.

IN COMMENTING on this report, the American Metal Market points out:

"At a glance, the figures do not seem to hang together, but the tonnage of all other ore was so relatively small that the increase in average value did not

BAGDAD ON THE POTOMAC!



—Washington Daily News

offset the slight decline in Lake Superior. That, in turn, was doubtless due to a slight variation in distribution, value of a given description of ore being probably the same in the two years.

"The excess of ore shipped over ore mined was due to accumulation at mines being liquidated.

"The ratio of iron ore mined to pig iron produced has varied widely during the depression, owing to accumulations early in the depression because the depth of decline in pig iron production was not foreseen. At the end of 1929 stocks of iron ore at mines, chiefly in the Lake Superior region, amounted to 7,067,206 tons, a decrease of 23 percent during the year, as production of pig iron had been unexpectedly heavy. By the end of 1932 stocks had increased to 17,316,000 tons, while for the end of last year they were estimated at 10,387,000 tons.

"In the 20 years through 1928 production of iron ore totaled 1,167,703,087 tons, while production of pig iron and ferroalloys totaled 642,237,940 tons, making an average ratio of 1.82 tons of ore to a ton of pig iron. This cannot be taken as an absolute standard, as there are some variations in component items year by year, but it represents a fairly close approximation to what may be expected as a rule.

"The following table shows actual relationships:

| IRON ORE AND PIG IRON PRODUCTION, GROSS TONS | | |
|---|------------|------------|
| | Iron Ore | Pig Iron |
| 1929..... | 73,027,720 | 42,613,983 |
| 1930..... | 58,408,664 | 31,752,169 |
| 1931..... | 31,131,502 | 18,426,354 |
| 1932..... | 9,846,916 | 8,781,453 |
| 1933..... | 17,553,188 | 13,345,602 |
| 1934..... | 24,889,000 | 16,200,000 |

"In 1929 pig iron production outran ore production and the ratio was low, stocks of ore at mines diminishing. Then stocks increased through 1932. While production in that year was low relative to pig iron production, shipments were still lower, while stocks on Lake Erie docks and at blast furnaces were reduced. Ore shipped from mines in 1932 totaled about 5,364,000 tons, showing a ratio of only .61, about one-

third of the ratio in the 20 years through 1928. Gradually the natural alignment between ore and pig iron is being restored."

Lead and Zinc

REFINED LEAD produced in the United States from domestic ores in 1934 was 15 percent higher than the output in 1933, whereas that from imported ores was 23 percent lower than in the preceding year and amounted to only 7 percent of the quantity reported for 1928. Total primary production was 13 percent higher than that for 1933, which was the lowest recorded since 1886. In 1934 secondary lead produced at plants that treat mainly primary materials declined 18 percent from 1933. Figures of exports of pig lead for 11 months of 1934 indicate a sharp decline from 1933. Apparent domestic consumption in 1934 (excluding stocks) was 21 percent higher than in 1933. Actual consumption probably increased less than this percentage, as trade figures indicate that stocks of refined lead increased in 1934. The price for lead fell as stocks increased and in December, 1934, was near the low point for the year.

The output of primary domestic desilverized lead in 1934 was about 172,300 tons; of soft lead about 102,300 tons, and of desilverized soft lead about 23,000 tons, making a total output from domestic ores of about 297,600 tons of refined lead. Corresponding figures in 1933 were 151,828 tons of desilverized lead, 85,578 tons of soft lead, and 22,210 tons of desilverized soft lead, making a total of 259,616 tons. The output of lead smelted and refined from foreign ore and bullion was about 10,700 tons, as compared with 13,963 tons in 1933. The total primary lead smelted or refined in the United States in 1934 was thus about 308,300 tons, an increase of about 13 percent as compared with the total of 273,579 tons in 1933. Plants that treat primary materials mainly produced 34,100 tons of secondary lead in 1934 compared with 41,632 tons in 1933. Therefore, the total output of primary and secondary refined lead at primary refineries was 342,400 tons, as compared with 315,211 tons in 1933, an increase of 9 percent. Antimonial lead produced at primary refineries in 1934 amounted to about 16,600 tons, as compared with 17,805 tons in 1933.

The imports for consumption of lead as "pigs, bars and old" for 11 months amounted to 315 tons. The base bullion imported during the same period contained 2,220 tons of lead. Exports of domestic lead in pigs, bars, etc., during the first 11 months amounted to 5,379 tons and exports of lead sheets during that period were 136 tons. Total exports of pig lead for the entire year 1933 were 22,835 tons.

By excluding the stocks of lead at smelters and refineries and by estimating the amount of lead exported with benefit of drawback (for which figures for only nine months are available), the new supply of lead made available for consumption in 1934 is calculated at about 296,000 tons, an increase of 21 percent from 244,299 tons in 1933.

The average quoted monthly price for lead at New York was 4.00 cents a pound for the first three months of the year and rose to 4.18 cents, the highest monthly average, in April. From that

level it declined gradually, reaching the low point of 3.57 cents for the year in November, and recovered slightly to about 3.60 cents for December. In 1933 the average monthly price for lead was 3.00 cents a pound at the beginning of the year, rose to a high of 4.50 cents in August and September, and then declined to 4.14 cents in December.

MINE OUTPUT of zinc in 1934 amounted to 439,485 tons, the largest tonnage since 1930 and a gain of 14 percent over 1933. Among the important zinc-producing districts of the country, Montana's output increased 48 percent—the largest proportionate increase—followed by Tennessee-Virginia with 46 percent, New York with 31 percent. Idaho, the Tri-State District and New Jersey showed smaller gains. Production in New Mexico and Utah declined 15 percent and 5 percent, respectively. The Tri-State District produced 153,500 tons, the largest amount, followed by New Jersey with 77,200 tons, Tennessee-Virginia with 47,760 tons, Montana with 30,700 tons, and Utah with 28,110 tons. Production of Eastern States increased 18 percent, Central States 13 percent, and Western States 13 percent.

The price of zinc concentrates at Joplin was \$25 a ton at the beginning of the year. It rose to \$30 a ton, the highest quotation of the year, in the week ending February 10, and continued at that level with minor fluctuations through the week ending May 5. From the third week in May through the last week in August the price fluctuated between \$26 and \$28. It declined to \$25 in the week ending September 8 and continued downward to \$23, the lowest quotation of the year, in the last week in September. The price recovered somewhat during the last quarter and was \$26 a ton as the year closed.

Manganese Ore Industry in 1934

Preliminary returns received from all present known producers of manganese and manganeseiferous ores in 1934 indicate that the shipments of ore containing 35 percent or more manganese were 40 percent more than in 1933; that the shipments of ore containing 10 to 35 percent manganese were 33 percent more than in 1933; and that the shipments of ore containing 5 to 10 percent manganese were 11 percent greater than in 1933.

Shipments of manganese ore containing 35 percent or more metallic manganese from domestic mines (exclusive of Puerto Rico) in 1934 were approximately 26,000 long tons, valued at \$600,000, compared with 18,558 tons valued at \$452,173 in 1933. Shipments of manganese ore from Puerto Rico to the United States during the 11 months ended November 30, 1934, were 1,461 long tons valued at \$60,500, compared with shipments for the entire year 1933 of 1,638 tons valued at \$66,450.

The total shipments of manganese ore in 1934 (exclusive of Puerto Rico) consisted of 17,100 tons of metallurgical and miscellaneous ores valued at \$305,000 (10,654 tons valued at \$186,407 in 1933) and 8,900 tons of battery ore valued at \$295,000 (7,904 tons valued at \$265,766 in 1933).

Manganese ore was reported shipped from Arkansas, California, Georgia,

TRI-STATE ZINC AND LEAD ORE PRODUCTION

Tri-State Zinc and Lead Ore Producers Association Bulletin for week ending January 12, 1935 (dry tons of 2,000 lbs.):

| | Zinc Concentrates | | |
|------------------------------------|-------------------|-----------|----------|
| | This week | Last week | Year ago |
| Total stocks (sold and unsold) | 15,011 | 13,606 | 10,280 |
| Net reserve stock | 13,848 | 13,606 | 9,065 |
| Production* | 6,467 | 2,014 | 6,893 |
| Shipments | 5,062 | 3,615 | 5,984 |
| Sales reported | 6,225 | 3,405 | 5,766 |
| * Included tailing mill production | 1,292 | 442 | 1,189 |
| Base price—Joplin | \$26.00 | \$26.00 | \$25.00 |
| Metal price—zinc, East St. Louis | 3.750c | 3.725c | 4.250c |

| | Lead Concentrates | | |
|--------------------------------|-------------------|-----------|----------|
| | This week | Last week | Year ago |
| Total stocks (sold and unsold) | 14,479 | 15,146 | 11,506 |
| Net reserve stock | 14,406 | 14,008 | 11,426 |
| Production* | 858 | 271 | 640 |
| Shipments | 1,525 | 1,645 | 263 |
| Sales reported | 460 | 340 | 247 |
| Metal price—lead, St. Louis | \$36.00 | \$36.00 | \$42.50 |
| Base price—Joplin | 3.550c | 3.550c | 3.900c |

MILL STATISTICS

| | This week | Last week | Year ago |
|--|-----------|-----------|----------|
| Mine mills operated 32 hours or more | 30 | 11 | 29 |
| Mine mills operated less than 32 hours | 1 | 1 | 3 |
| Tailing mills operated less than 96 hours or more | 11 | 6 | 16 |
| Tailing mills operated less than 96 hours | 6 | 1 | 3 |
| Total mills which produced more than 25 tons during week | 48 | 19 | 51 |
| Mills which produced less than 25 tons during week | 3 | 5 | 5 |
| Total number of mills operated during week | 51 | 24 | 56 |

Mine Mills Operated This Week: Admiralty No. 2, American Diamond, Black Eagle, Byrd Mary Jane, C. M. & R. Bird Dog, See Sah & Wilbur, Conico, V. H. Barr, Century Scott, Dines Wilson, D. & C., EP Central, EW No. 4, Federal Jarrett, K. & O. Discard, Lost Trail, Lucky OK, Luck Ox, Locklyn, Peru, Mary M. Beck, Mid-Continent, Mission, New Blue Mound, Playter, Prairie Chicken, Ramage, Rialto, St. Louis No. 4 & No. 8, UZ Royal, Velie Lion.

Tailing Mills Operated This Week: Atlas, Bailey, Britt, Cardin, C. M. & R. Beaver, Chubb & Webber, King Brand, EW No. 7, Peru-Laclede, G. & S., Interstate Woodchuck, Myers No. 2, Mineral Recoveries, Semple Rightley, Skelton, Missouri Chitwood, Tri-State Ottawa.

ZINC AND LEAD ORE STATISTICS

December Bulletin of the Tri-State Zinc and Lead Ore Producers Association. Corrected statistics for four weeks ending December 29, 1934:

| | Total stock sold and unsold | Net reserve stock | Pro- duction | Ship- ments |
|-------------------------------|-----------------------------------|-------------------------|-----------------|----------------|
| Zinc Concentrates | | | | |
| Week ending December 8, 1934 | 17,870 | 17,870 | 7,132 | 7,161 |
| Week ending December 15, 1934 | 18,593 | 17,918 | 7,069 | 6,346 |
| Week ending December 22, 1934 | 19,368 | 18,743 | 8,315 | 7,540 |
| Week ending December 29, 1934 | 15,207 | 14,997 | 2,352 | 6,513 |
| Total for four weeks | | | 24,868 | 27,560 |

| | Lead Concentrates | Lead | and zinc combined |
|-------------------------------|-------------------|--------|----------------------|
| Week ending December 8, 1934 | 17,538 | 17,403 | 926 |
| Week ending December 15, 1934 | 17,872 | 17,615 | 1,012 |
| Week ending December 22, 1934 | 17,853 | 17,636 | 1,001 |
| Week ending December 29, 1934 | 16,520 | 14,977 | 323 |
| Total for four weeks | | | 3,352 |
| | | | 3,939 |

| | Zinc | Lead | Lead and zinc combined |
|---|----------------|-------------------|--|
| | Mine stocks | Tailing stocks | Mills Producing less than 25 tons per week |
| Production 52 weeks, 1934 | 300,084 | 38,480 | 338,564 |
| Production 52 weeks, 1933 | 223,592 | 27,946 | 251,538 |
| Shipments 52 weeks, 1934 | 291,678 | 32,811 | 324,489 |
| Shipments 52 weeks, 1933 | 259,787 | 32,926 | 292,713 |
| Value of shipments 52 weeks, 1934 | \$7,819,305 | \$1,300,204 | \$9,119,509 |
| Value of shipments 52 weeks, 1933 | 7,231,087 | 1,543,894 | 8,774,981 |
| Average price of concentrates—four weeks | \$25.60 | \$35.15 | \$26.79 |
| Average metal price—four weeks | 3.714c | 3.455c | ..... |
| Average number of mills operated during month | 26 | 72 | 7 |

Montana, Tennessee, and Virginia in 1934 in quantities ranging from about 160 tons in California to about 11,600 tons in Montana, Montana, Arkansas, and Georgia together supplied about 23,300 tons, or about 90 percent of the total shipments.

The imports for consumption of manganese ore for the 11 months ended November contained 152,740 tons of metallic manganese, compared with 288,187 tons of ore containing 141,458 tons of metallic manganese during the entire year 1933. Of the ore imported in 1934, 115,793 tons were from Soviet Russia, 64,548 tons were from the Gold Coast, 55,834 tons were from Brazil, and 51,478 tons were from Cuba.

Shipments of domestic ore containing 10 to 35 percent manganese (ferruginous manganese ore) in 1934 were about 17,000 long tons valued at \$71,000, compared with 12,779 tons valued at \$57,837 in 1933. The ferruginous manganese ore shipped in 1934 was from Alabama, Arkansas, Georgia, and Montana.

Shipments of domestic ore containing 5 to 10 percent manganese (manganiferous iron ore) in 1934 were about 198,000 long tons valued at \$512,000, compared with 178,852 tons valued at \$471,367 in 1933. All the manganiferous ore shipped in 1934 came from Minnesota and Michigan.

LATEST advices from the NRA indicate that there is a further 90-day extension in the case of Section 4, Article 9, in the Retail Code, as well as corresponding sections in the retail food and grocery codes. It is understood that these provisions are to be withdrawn from these codes, and placed in the codes of the industries operating industrial stores.

THE PRESENT policy of the South African mines of mining low-grade ore has resulted in developing a considerable amount of opposition among shareholders, according to a report to the Commerce Department from Acting Commercial Attaché E. B. Lawson, Johannesburg.

Up until the beginning of last year, it is pointed out, it was not feasible or profitable to mine low-grade ore but the suspension of the gold standard by South Africa and the increased price of gold in terms of South African currency are factors which have altered this situation. As the value of gold increased, the mines have consistently reduced the grade of ore mines, the report points out.

CCOMPILATION of the 1935 edition of *Mac's Coal Directory and Buyers Guide* is progressing rapidly. It is planned to distribute "Mac's" early in 1935. Complete data on coal analyses for each mine will be a new and added feature. Other new and exclusive features are planned for users. J. C. Munch as assistant advertising manager, and A. P. Allen as assistant editor, have been added to the staff. Clark MacQuown will continue as editor and business manager, and W. C. MacQuown as president.

Production and Uses of Sulphur Illustrated in New Film

JUST ABOUT everything one might wish to know concerning sulphur is picturized interestingly in an educational motion picture film recently prepared under the supervision of the United States Bureau of Mines, Department of the Interior, in cooperation with an industrial concern. Sulphur is a mineral of real importance, employed in the making of many useful things, such as paper, fertilizers, explosives, rubber, paints and chemicals. The United States is by far the largest producer and consumer of the material, and the film should be of interest to every citizen.

The film which is a "silent" picture in two reels, is entitled "Sulphur," and illustrates the whole story of the mining of sulphur—its preparation for the market, its transportation, and its many uses. It is the latest addition to the Bureau of Mines' motion picture library of films visualizing the mineral industries.

The film opens with a panorama of a large sulphur mining plant in Texas, near the Gulf of Mexico, where most of the sulphur is produced. Views are shown of the mining town, power house, the huge reservoir, the water-softening plant, air compressors and wells equipped for pumping sulphur from far underground. Complete details of the novel Frasch method of mining sulphur are shown by the use of animated drawings. These details include the heating of water to the required temperature by mixing with high pressure steam and pumping it to the bottom of the well, where it melts the sulphur, which is forced to the surface by compressed air. The melted sulphur is piped from the wells to a sulphur-collecting station and discharged into sumps lined with steam coils. Next is shown the transportation of the sulphur to a main pumping station by centrifugal pumps and its elevation to the top of huge storage vats, where it cools and solidifies. The building up of the sides of the vats, sometimes as high as 40 to 50 feet, is shown. Next is depicted the blasting of the solidified sulphur stored in the big vats and the loading of the material into freight cars for shipment.

Animated drawings are used to illustrate the large amounts of sulphur used in the spraying and dusting of fruit and vegetation as protection against insects; in the making of rubber products; in making sulphite pulp used in the paper industry; and in the manufacture of numerous important chemicals, especially sulphuric acid, commonly known as the "King of Chemicals," which consumes about three-fourths of the crude sulphur produced. The uses of sulphur in the making of common fertilizer, in refining petroleum, in the iron and steel industry, and in the manufacture of textiles, paints and explosives, is also illustrated.

Copies of this film in 16 or 35 mm. sizes may be obtained for exhibition purposes, by schools, churches, clubs, civic and business organizations, and others, by applying to the Pittsburgh Experiment Station of the United States Bureau of Mines, Pittsburgh, Pa. No charge is made for the use of the film, but the exhibitor is asked to pay transportation charges.

Method of Mining Coal Bed in Eastern Utah (Continued from page 33)

MINING

Panel-and-room coal is undercut by electrically driven mining machines; in pillar work, pick or hand mining is the practice. There are six Sullivan C. E. 7's, equipped with a 6-foot cutter bar, and two C. L. U.'s, equipped with a 10-foot cutter bar.

LOCOMOTIVES

Two main-line electric locomotives, one 10-ton and one 20-ton, operated by 250 volts d.c. power are used to haul the coal on the main haulage to the surface in 16-car trips. During the month of October, 1929, 813 trips were hauled to the surface in 26 working days, or an average of 15.63 trips daily was made per locomotive. The average length of haul is approximately 1.4 miles.

HOISTS

For hauling the coal from the room necks up the panel slopes or main-line haulage, five hoists are used, two of which are 100-horsepower, one 75-horsepower, one 50-horsepower, and one 35-horsepower, operated on the 440-volt a.c. circuit. A three-fourths-inch cable made of monitor plow steel is used.

An average of 170 to 180 cars is hauled by the 100-horsepower hoists on the 7 and 8 Easts each shift, while on the smaller hoists 62 to 98 cars per shift are hauled.

MINE CARS

There are 250 all-steel solid mine cars, equipped with 18-inch wheels and roller bearings, which carry an average load of 3.62 tons. During the period under consideration, production amounted to 41,084.9 tons of coal, and 12,805 cars were dumped, making an average turn around in 26 days of 1.97 times per day per mine car.

TRACKS

The tracks are kept clean, well graded, and on line at all times. The track gauge is 42 inches; 660-pound rails are used at the main haulage, and 40-pound on panels and in rooms. All curves and switches are laid according to the company's standard. Wooden ties 6 by 6 by 6 inches, placed on 18-inch centers, are used under all tracks.

VENTILATION

Ventilation is furnished by a 6-foot Jeffrey multi-blade fan directly connected to a 50-horsepower motor, exhausting 32,000 cubic feet of air per minute against a .4-inch water gage.

Wheels of Government

(Continued from page 29)

H. R. 3068. Import Duties on Coal and Coke—Turpin (Rep., Pa.). Committee on Ways and Means. Provides duty of \$4.00 per 2,000 pounds upon coal, coke, or coal or coke briquettes from any foreign country. (Same as S. 418.)

H. R. 3422. Terminating Authority for Foreign Trade Treaties (Reciprocal Tariff)—Treadway (Rep., Mass.). Committee on Ways and Means. Provides "that the authority of the President to enter into foreign trade agreements under the Act of June 12, 1934 be and is hereby terminated, to take effect upon enactment."

H. R. 3453. Old Age Compensation—Deen (Dem., Ga.). Committee on Ways and Means. Provides pension of \$25.00 per month for all persons over 60 years of age. Graduated levies from 5 to 95 percent upon net incomes, salaries and earnings in excess of \$100,000.

H. R. 1. Veterans' Adjusted Service Certificates—Patman (Dem., Tex.). Committee on Ways and Means. Provides for immediate payment to veterans of the face value of their adjusted service certificates; contemplates payment of approximately \$2,400,000,000 through the issuance of new money in the form of non-interest bearing certificates. Would repeal section 505 of the 1924 act which authorized annual appropriations for the liquidation of the adjusted service certificates.

H. R. 3657. Old Age Pensions—Connery (Dem., Mass.). Committee on Labor. Appropriates \$25,000,000; establishes "Old Age Security Bureau" in Department of Labor; provides for allotments for old-age pensions to states when states develop plan for old-age pensions and relief acceptable to bureau. Minimum age, 65 years.

H. R. 3658. Regulating Commerce in Petroleum—Disney (Dem., Okla.). Committee on Interstate and Foreign Commerce. Regulates interstate and foreign transportation of petroleum and derivatives by authorizing and directing President to prescribe regulations which will prevent transportation of oil produced in violation of state laws. Provides fine of \$5,000 and imprisonment of five years for violations, for individuals and agents of corporations. Provides fine of \$20,000 for corporations.

H. R. 3895. Old Age Pensions—Ramspeck (Dem., Ga.). Committee on Labor. Similar to H. R. 3657, with appropriation of \$10,000,000.

H. R. 3969. Regulation of Petroleum Production—Blanton (Dem., Tex.). Committee on Interstate and Foreign Commerce. Identical with S. 853.

H. R. 3976. Unemployment Insurance—Lord (Rep., N. Y.). Committee on Ways and Means. Provides for levy of 1 percent of pay roll from employer, 1 percent of wages from employee, and contribution from the United States of amount equal to levy from employers. Any deficit in fund to be made up by the

United States. Exempts agricultural labor, domestic service, teachers, employees of endowed institutions and those subject to Emergency Railroad Transportation Act of 1933. Commissioner of Internal Revenue shall collect taxes and contributions and employer shall make a return of employees' wages. Minimum payment of \$7 per week or average earnings for 20 hours of work while individual had employment. Payments limited to 30 weeks in any taxable year.

H. R. 3977. Townsend Old-Age Revolving Pension Act—McGroarty (Dem., Calif.). Committee on Ways and Means. Every citizen 60 years of age and over to receive, upon application and qualification, a pension of \$200 per month during life. Levy of 2 percent on gross dollar value of each business, commercial and/or financial transaction done within the United States. Pension must be spent within 30 days for goods, commodities, or services within the jurisdiction of the United States; not more than 15 percent for charity, church and fraternal organizations. Administration under Secretary of the Treasury.

H. R. 4142. Wagner-Lewis "Economic Security Act"—Lewis (Dem., Md.). Committee on Ways and Means. Same as S. 1130, but with annuity limit of \$100 per month instead of \$9,000.

H. R. Interior Department Appropriations Bill, 1936—Government supply bill. Committee on Appropriations. Detail of the estimates as contained in the budgets for the U. S. Geological Survey and the U. S. Bureau of Mines in comparison to the appropriations for 1935 is presented below.

H. R. 2746. 30-Hour Week—Connery (Dem., Mass.). Committee on Labor. During the period of national emergency declared in bill, no employee in trades or industries producing, transporting or distributing goods or services in or af-

fecting interstate commerce, to be permitted to work more than 30 hours per week or five days per week, or six hours per day. Exemptions only on proof of inadequate supply of labor, etc., and agreement by employer to adjust rates of compensation so that average weekly earnings are not reduced. Such adjustments also required to obtain exemption from anti-trust laws under N. I. R. A. Does not apply to agricultural workers, domestic servants or railway employees. President given power to limit imports through fees, licenses, etc., upon proof that articles being imported in such quantities as to endanger objectives of the proposed Act.

H. J. RES. 14. Surtax of 50 Percentum on Foreign Subsidiaries—O'Malley (Dem., Wis.). Committee on Ways and Means. Proposes an amendment to the Revenue Act of 1932 providing for an emergency surtax of 50 percent on the net income of all foreign subsidiaries of American corporations, individuals, partnerships or manufacturers, in lieu of the 13½ percent corporation rate or any other rate applicable to persons, partnerships or manufacturers. No deduction for tax levied by foreign government.

H. J. RES. 19. Trade Agreement Cargoes in U. S. Vessels—Bland (Dem., Va.). Committee on Merchant Marine, Radio and Fisheries. Requiring 50 percent of the cargoes imported and exported under trade agreements between the United States and foreign nations, to be carried in vessels of the United States unless the Secretary of Commerce shall certify that vessels of the United States are not available in sufficient numbers or capacity, or on necessary sailing sched-

U. S. GEOLOGICAL SURVEY

| | Budget, 1936 | Appropriated, 1935 |
|---|--------------------|--------------------|
| Administrative salaries | \$128,060 | \$112,500 |
| Topographic surveys | 400,000 | 112,140 |
| Geological surveys | 325,000 | 289,440 |
| Volcanology . . . . . | ..... | 6,030 |
| Mineral resources of Alaska | 40,000 | 29,150 |
| Gaging streams | 630,000 | 337,650 |
| Classification of lands | 150,000 | 89,700 |
| Printing and binding | 110,000 | ..... |
| Preparation of illustrations | 17,500 | 163,190 |
| Engraving and printing maps | 110,000 | ..... |
| Enforcement of mineral leasing laws | 200,000 | 173,700 |
| | \$2,110,560 | \$1,313,500 |

U. S. BUREAU OF MINES

| | Budget, 1936 | Appropriated, 1935 |
|---|--------------------|--------------------|
| Salaries and general expenses | \$62,190 | \$48,108 |
| Operating rescue cars | 499,000 | 452,000 |
| Mining investigations in Alaska . . . . . | ..... | 6,173 |
| Testing fuel | 113,000 | 97,828 |
| Mineral mining investigations | 98,860 | 85,974 |
| Oil and gas investigations | 129,360 | 111,766 |
| Expenses, mine experiment stations | 140,450 | 127,036 |
| Cars, etc., buildings and grounds, Pittsburgh, Pa | 67,690 | 61,908 |
| Economics of mineral industries | 262,855 | 207,133 |
| Helium production | 50,000 | 17,000 |
| | \$1,423,405 | \$1,214,926 |

Annual Meeting—Colorado Mining Group

THE Colorado Mining Association and the Colorado Chapter of the American Mining Congress met in joint session at the main auditorium of the Continental Oil Building at 10 o'clock on January 14. The meeting was called to order by President Jesse F. McDonald, and after the roll call of the various counties, which showed a splendid attendance from every mining county in the state, the board of directors for the ensuing year and the members of the various committees were announced.

The secretary was called upon to give his report, which was given in great detail. The treasurer's report, which showed increased activity during the last year, was given by the treasurer. The morning sessions were presided over by F. D. Willoughby, of Pitkin County, and Stanley M. Walker, of Boulder County, respectively. The speakers were Clifford B. Noxon, president of the Colorado State Land Board, who gave a very interesting discourse on "The Policy of the State Board of Land Commissioners Concerning the Filing of Mining Claims on State Lands." E. D. Gardner, of the Bureau of Mines, Arizona, explained the activities of the Bureau of Mines, and reviewed the efforts of the bureau to help the small miner and prospector in the matter of mining and milling methods. His remarks were received with a great deal of interest, and many questions were asked concerning his activities during the year.

A luncheon was held at the Brown Palace Hotel for the directors and officers of the Colorado Mining Association. All of the officers were reelected: Jesse F. McDonald, president; Edward P. Arthur, first vice president; Frank L. Jones, second vice president; John T. Barnett, third vice president; R. M. Henderson, fourth vice president; Shrive B. Collins, treasurer; and Robert S. Palmer, secretary.

The afternoon sessions were presided over by Dr. M. F. Coolbaugh, president of the Colorado School of Mines, and Charles L. Harrington, of Clear Creek County, respectively. The speakers were Dr. C. A. Heiland and Dr. M. H. Parker, of the Colorado School of Mines, who spoke on geophysical prospecting and mining, and the application of geology in ore finding.

One of the most interesting sessions was devoted to the discussion of stream pollution and the immediate problem of the mining industry. These discussions were led by Page M. Brereton and Warwick M. Downing, attorneys who have given a great deal of study to the question. Since the matter is now before the Supreme Court, the discussion was of tremendous interest to the operators and miners in attendance.

That evening a silver smoker and operators' dinner were held in the main dining room of the Brown Palace Hotel. Although the original plan of the committee was to hold a small meeting, the

intense interest of the operators, and the problems concerning the industry, was such that the meeting was crowded to overflowing. Every important district in the state was represented by its leading operators, lessees and those engaged in smaller operations. Leading equipment men were also in attendance, as were state officials and those interested in problems of the metal miner. Harry D. MacDonald, of Colorado Springs, acted as toastmaster and the meeting was filled with concise statements concerning the exact status of mining in the West.

The second day's sessions started promptly at 10 a. m. Judge B. T. Poxson, of Summitville, introduced Mark A. Skinner, superintendent of the United States Mint of Denver, who outlined the activities of the mint as they affect the metal miner. Numerous questions were asked of Mr. Skinner and the direct information obtained from him was of considerable value to those in attendance.

Others presiding over the morning sessions were John Cortellini, of Lake County; H. L. Tedrow, of Park County; and J. P. Channell, of the La Platas. The speakers were H. A. Tiemann, who spoke on vocational training as an aid to the miner; Justin H. Haynes, western representative of Lloyd Thomas, who gave an illustrated talk on the latest methods used in the appraisal of mining properties; and Burt B. Brewster, of Salt Lake City, who gave a splendid talk on the subject, "Some Interesting Items of Importance from a National Standpoint."

On motion of J. O. A. Carper, of Denver, seconded by Frank L. Jones, of Idaho Springs, the convention unanimously expressed its desire for additional financial assistance for the splendid work of the Bureau of Mines and of the Geological Survey.

A second luncheon was held at the Brown Palace Hotel, at which special problems concerning the members were discussed. This meeting, like the others, was filled to capacity.

The afternoon session was the best attended of the entire convention. Mr. George M. Taylor, of El Paso and Teller Counties, introduced W. J. Coulter, general manager of the Climax Molybdenum Company, who discussed "Safety Practices in Mining Operations, and Their Relationship to Compensation Costs." The second section was presided over by Judge James Owen, of Denver, who introduced the principal speaker, Mr. Baldwin B. Bane, executive administrator of the Federal Securities and Exchange Commission, Washington, D. C. Mr. Bane gave one of the finest talks western mining interests have ever been privileged to hear. His subject was "The Federal Securities and Exchange Commission, and Its Policy Toward Western Mining." He dealt with his

subject in such a thorough manner that everyone who heard him expressed complete satisfaction and were greatly pleased at the manner in which he conducted himself when placed under examination by certain individuals who were confronted with serious immediate problems before the commission.

The convention adjourned just in time for the members to attend the annual sowbelly dinner held in the main ballroom of the Cosmopolitan Hotel. Nothing was overlooked by the committee in preparing for the success of this great event. The large "Silver Glade" was packed to capacity. The School of Mines Band furnished the music for the first portion of the dinner. Chairman Fred C. Carstarphen introduced the toastmaster, J. W. Valentine, of Boulder County. Mr. Valentine proved himself to be one of the finest toastmasters the members have been privileged to hear. He kept the meeting in an uproar with his genuine humor and his exceptional ability to deal with every situation which arose. He introduced Governor Johnson, Mayor Begole, Senator Virgil C. Herrin, Speaker Moses E. Smith, and Representative Hoefnagels. All of these officials responded, commanding and congratulating the metal-mining industry.

The principal speakers of the evening were Baldwin B. Bane, Fred Farrar, and L. Ward Bannister. All of these men expressed the sincere hope that the mining industry would continue to prosper and Mr. Farrar in particular pointed out that Colorado's entire future depended upon the development of her mineral resources. Special features were provided by an orchestra and exceptional talent for the occasion was provided. The remarks of observers were "All good fun, no roughness, and early dismissal."

Frank L. Jones was elected as one of the Colorado directors of the American Mining Congress and the local chapter, to take the place of George L. Nye, recently deceased. The directors elected were: Ezra D. Dickerman, R. M. Henderson, Horace F. Lunt, E. W. Keith, Jesse F. McDonald, Frank L. Jones, and Gustavus Sessinghaus. The directors holding over from last year are: George O. Argall, John T. Barnett, J. O. A. Carper, J. G. Clark, E. A. Colburn, George E. Collins, John Cortellini, and R. J. Walter. The officers were re-elected.

Social Legislation

(Continued from page 21)

wages in any employment and to regulate production, industry, business, trade and commerce to prevent unfair methods and practices therein. Such amendment would remove limitations of the due process clauses of the Constitution with respect to such legislation.

H. R. 2749—*Six-hour Day for Employees of Carriers*—Crosser (Dem., Ohio). Committee on Interstate and Foreign Commerce. Provides six-hour day for employees of railroads and other carriers without reduction in present daily wage.

Report of Tax Committee

(Continued from page 26)

reasonable action. This may stop public protest and clamor, but still leaves the drastic provisions available to some Bureau employee who may wish to cite them as justification for his own arbitrary and unreasonable action.

There is also the tendency to use language with little thought of the real meaning and significance of the words used. Reference is made in Mim. 4170 to furnishing "full and complete information regarding * * * remaining useful life of the assets" and to having the taxpayer prepare and submit all this information in writing. If we stop for a moment and consider what would be involved in attempting to submit in writing the complete information necessary for a determination of the remaining useful life of assets, we will realize how impossible this is. For example, we might have to consider not merely machinery being used but that which might be used, processes now employed or other processes which might be employed, the pending or probable development of the art, metal prices in this country and abroad, the volume and demand for product, and the entire trend of commercial life of the world. Volumes on mining, metallurgy, economics, statistics of business and trade, etc., might all be required to give the "full and complete information" which might be called for to prove "conclusively" the remaining useful life of the assets. If we fall short of doing this in any particular, it could be said that we had not presented the complete information necessary for a determination of future useful life. Furthermore, if in any particular we failed to reveal any of these factors of which we had knowledge and which we had taken into account in making our estimates, there would be the possibility of some future contention that we had failed to submit to the Bureau all the information we had and therefore we had not complied with its requirements. Stranger things than this have happened in Bureau contentions. Of course, the Bureau protests and I think it means that only a *reasonable* amount of information need be submitted, but if it means "*reasonable*" instead of "*full and complete*," I think it ought to have used the wording which would convey its meaning. It is bad practice in laws and rulings to use language which does not convey the intended meaning. Whenever it is found that this has been done, the language should be directly amended and not covered by a newspaper release.

If all the new rulings mean is that the Bureau desires to make a general recheck to see that depreciation allowances have not been and are not being excessive, so that future depreciation may be on a reasonable basis, and desires to do this in whatever manner will give the least bother and difficulty to the taxpayer, we seem to have little ground for criticism

and complaint. If, however, the Bureau intends, by setting up arbitrary technicalities to defeat the purpose of the law as to reasonable allowances for depreciation, or if it intends to set up drastic rulings to be waived or enforced as this or that particular Bureau representative may see fit, or in any other way to violate the spirit and intent of the law, then we have real ground for criticism and complaint. Naturally, we hope, and so long as the Bureau will let us we want to hope, that the Bureau will handle this entire matter in the same spirit of fairness which the law contemplates when it makes a "reasonable allowance" for depreciation.

3. Development and Percentage Depletion:

The Supreme Court of the United States, in U. S. v. Dakota-Montana Oil Company, March 13, 1933 (288 U. S. 459, 53 Sup. Ct. 435—C. B. XII-1, page 243), decided that in the case of oil and gas wells the taxpayer who, having exercised the option granted him by the regulations, had charged the cost of preliminary drilling and development to capital account (instead of charging such cost to current expense as under the regulations he had the alternative option to do) was thereafter bound to recover such expenditures only through depletion allowance. The decision simply sustained the provisions of the regulation that a taxpayer having exercised the option which the regulation gave to him was thereafter bound by it.

Although no similar option had been given to mines by the Regulations, question was raised in the Bureau as to whether this decision might not have some effect on the treatment to be accorded development expenditures of mines, possibly overturning the Bureau's long-established Regulations, practice and procedure with regard thereto. After extended hearings before the Bureau, the General Counsel gave his opinion (G. C. M. 13954—Internal Revenue Bulletin, Volume XIII, No. 51, of December 17, 1934, page 3) which in effect held that the established Treasury Regulations regarding mine development expenditures were proper and valid and were subject to no modification or change because of the decision in the Dakota-Montana Oil Company case.

4. Capital Stock Tax:

In this discussion we have dealt particularly with income taxation as that seems the major Federal tax problem which affects the mining industry. There are other taxes of greater or less importance. The capital stock tax is one which seems in far from a satisfactory situation. It is simple enough as to the first year where the taxpayer is to declare his own taxable capital. It seems beset with confusion when we are facing the second year with the various adjustments then required to be made.

5. Pending Problems:

As to the future, the major feature immediately before us seems to be the

question of possible revenue legislation in 1935. There are many features of the present Act which we believe should be amended to improve and simplify the law or its administration. It seems doubtful if this is the time to expect such amendment to be made. It is stated that the Administration contemplates a minimum of revenue legislation at this session, believing that existing law should be given a further trial before any extended amendment is made in it. We understand it is contemplating that a general survey should be made of the administrative features of the law, taking the necessary time to consider this in an adequate and orderly manner and not planning to seek extensive amendments until they can be prepared after such consideration.

Depreciation questions, as indicated, stand today probably in a more confused and uncertain condition than they have ever been and it may take considerable time before they can be straightened out. Perhaps we shall have to face the "trial and error" method, with considerable grief to both the Bureau and taxpayers before the proper lines can be established as a result of contests within the Bureau or before the courts.

Furthermore, there seems a disposition of the Government to question every basis of interpretation or administration which has previously been used and to hold that decisions in a time of prosperity should not apply in a time when the Government is pressed for revenues. We have the uncertainty which always exists because no regulation or decision of the Treasury Department can be relied upon when the Department reserves the right at any time to change or revoke its decisions with retroactive effect. We also have the disturbing fact that the Commissioner, by simply refusing to acquiesce in decisions of the Board of Tax Appeals, may virtually instruct the Bureau to disregard them; or he may, in effect, give instructions that they are to be followed when disadvantageous to the taxpayer, but ignored when disadvantageous to the Government. This is not what in common business practice we would consider wise or right. No man would expect successfully to conduct business with a partner who continually took such an attitude. Yet the Government expects taxpayers cheerfully to continue to do business with it as a partner, sharing in their profits, but leaving them in total uncertainty as to how its share of the profits shall be computed and what the amount of that share will be. This is not the way for the Government to win the confidence of business or to encourage it to proceed confidently with those measures which will bring recovery and yield Government revenues.

The whole matter of refunds of overpayments has been brought into a most unfortunate situation. When Secretary Roper was Commissioner of Internal Revenue he established the principle and lived up to the thought that where a taxpayer had overpaid his tax the Government should as readily and directly refund such overpayment to him as it

would collect an additional tax from him if he had underpaid his tax. It was recognized that to do otherwise would be placing a premium on underpayments. Today it is notorious that the Government intends to proceed most vigorously to collect any underpayments, but places every blockade possible in the way of making refunds. Congress as much as, if not more than, the Bureau seems to be blameworthy for this because of what seems a mistaken attitude regarding refunds and the consequent requirements for reporting refunds for review by a Congressional committee. Aside from the question of any unfairness to the taxpayer who has overpaid his taxes, the serious revenue feature is the open notice served on the taxpayers that any overpayments they make can only be recovered with the greatest difficulty and delay.

To what extent these and other questions may become critical in the next year we cannot try to foretell. We may, however, well remember that "The power to tax is the power to destroy." Taxation, or tax administration, may destroy or may hamper, impede or discourage business progress and prosperity. Whenever it does, I believe we have a duty as citizens, no less than the privilege as taxpayers, to make our protests and take our part in trying to prevent or correct errors or abuses.

In conclusion, I would, as chairman, express my appreciation to my fellow-members of the committee and to the others who have worked with it for the cooperation and assistance which they have given. I would also express our appreciation of the services which have been rendered by A. W. Dickinson as head of the Tax Division of The American Mining Congress, both to the committee and to the members of the mining industry.

Report of Mineral Planning Committee

(Continued from page 50)

The responsibility for leadership in the effort to reduce unnecessary deaths and suffering rests on the Federal Government. Neither depression nor prosperity can change the need or the responsibility; and an aggressive, effective long-time mine safety program must function continuously, especially in maintaining frequent contacts with the mine worker. It is the judgment of the committee that reduction of field safety and health work in mining by the Federal Government is false economy threatening the entire mine safety program which must not be allowed to fail.

FEDERAL AGENCIES OF MINERAL ADMINISTRATION

WE WISH to stress the fact that the support of the mineral services is utterly inadequate for the work to be done. Not only has it been impossible



—*The Evening Star*

to take on important new problems required by changing conditions, but some of the fundamental services which have been long established and have proven their worth have been greatly impaired by recent cuts in budgets. Even such elementary service as the collection of primary statistics of production, which has been a Government function for 50 years, can no longer be adequately performed. Such figures are basic to the intelligent formulation of either emergency or long-range plans. Because of this lack, statistical services have had to be improvised by the National Recovery Administration and other emergency organizations, and the continuity of record is being destroyed.

The exhaustibility of minerals warrants special emphasis on scientific and technological investigations by the Government. The value of minerals produced annually is about 50 percent of that of agricultural products derived from the soil. Notwithstanding the importance of the mineral problem to our national welfare in comparison with agriculture, the total appropriations for Government mineral services are only a fiftieth part of the appropriations given to similar scientific and technological services in agriculture. Minerals, in short, from the standpoint of public attention have been a neglected natural resource.

THIS EIGHTH Annual Mining Institute sponsored by the College of Mines at the University of Washington was held at Mines Laboratory on the campus during the week from Monday to Saturday, January 21 to 27, 1935. The Institute is open to all persons interested in the mineral industries; no registration formalities are imposed; and no fees are charged. The program consisted of a series of lectures given by members of the staff and by special lecturers, together with laboratory demonstrations of methods, processes, and equipment used in the mineral indus-

tries. Motion pictures of timely interest were shown, and a field trip to the Tacoma smelter was arranged.

The special speakers for the Institute were as follows:

H. E. Culver, supervisor of geology, State Department Conservation and Development, "Ore Deposits."

J. D. Hull, supervisor of mineral surveys, State Department Conservation and Development, "Mine to Market Roads."

Arthur G. Prichard, mining investments, "Silver."

R. J. Spry, metallurgical engineer, "A Mill for the Small Gold Mine."

E. A. White, manager, Tacoma Smelter, "Present Gold, Silver, and Copper Regulations Affecting Smelter Rates."

H. F. Yancey, supervising engineer, Northwest Experiment Station, "The Activities of the United States Bureau of Mines in the Pacific Northwest."

REPORTS on metallurgical investigations made at the Carnegie Institute of Technology during the past year will be given by a group of scientists at the eighth annual open meeting of the Metallurgical Advisory Board to be held Friday, February 8, on the Carnegie campus. Approximately 400 metallurgists are expected to attend the meeting.

A group of prominent metallurgists from the industry will discuss the findings of the Carnegie investigators. Discussers include E. C. Bain, metallurgist, U. S. Steel Corporation; W. P. Sykes, metallurgical engineer, Cleveland Wire Works; Dr. J. B. Austin, research laboratory, U. S. Steel Corporation; Louis Jordan, United States Bureau of Standards; J. D. Gold, chief metallurgist, Weirton Steel Company; Dr. V. N. Krivobok, Carnegie Institute of Technology and Allegheny Steel Company; Dr. A. B. Kinzel, chief metallurgist, Union Carbide and Carbon Research Laboratories; A. D. Shankland, engineer of tests, Bethlehem Steel Company; Phillip Schane, Jr., chief metallurgist, Duquesne Works, Carnegie Steel Company; H. W. Graham, E. H. Hollenbach, assistant engineer of tests, Bethlehem Steel Company; L. F. Reinartz, general manager, American Rolling Mill Company; and C. D. King, open-hearth committee, U. S. Steel Corporation.

SECRETARY of Labor Perkins, in radio speech, says Government expenditures for relief in United States have far exceeded those in countries which have experimented with unemployment insurance and states that best hope for caring for "victims of hazards and vicissitudes of life" lies in application of principles of insurance; says social insurance, if properly designed, is not at variance with recovery and development of a more stable economic order.

THIS VALUE of the gold, silver, copper, lead, and zinc produced from mines in Nevada in 1934 was \$12,164,000. Compared with 1933, production of all metals increased; also the higher prices realized for the metals in 1934, particularly for gold and silver, were important in increasing the total value by more than \$6,711,000 over 1933.

PERSONALS

John Carter Anderson, consulting mining engineer, Beverly Hills, Calif., has just returned to his home after an extended examination of quartz and placer mines in southwestern Oregon and northern California.

P. H. Reagan, mining engineer, Fresnillo Company, is supervising operations for his company in the Chalchihuites section, Zacatecas, Mexico.



P. L. Donie

P. L. Donie, vice president, Little Betty Mining Company, was elected president of the Indiana Coal Mining Institute at their annual meeting, December 15.

James H. Pierce & Co. have taken over the management of the Kingston Coal Company, Kingston, Pa., one of the oldest and largest independent operators in the northern anthracite field.

W. H. Cooke, electrical superintendent, West Virginia Coal & Coke Corporation, Omar, W. Va., has resigned to become superintendent of power for the Jewell Ridge Coal Corporation, Richlands, Va.

J. P. Peabody, formerly general manager of the Rocky Mountain Fuel Company, Denver, Colo., has been appointed president of that company, to succeed Miss Josephine Roche, who resigned to accept the post of Assistant Secretary of the Treasury.

Fred E. Johnson, formerly of Arizona Consolidated, is now with the Montana Mines, Ruby, Mont.

Harold G. Mitchell has been appointed superintendent and manager of the Pacific States Mines, Inc., Jacksonville, Oregon.

Executive offices of Eavenson, Alford & Hicks, Mining Engineers, have been moved from the Union Trust Bldg., to the Koppers Building, Pittsburgh, Pa., effective January 14.

John C. Cosgrove, president, West Virginia Coal & Coke Corporation, was elected president of Bituminous Coal Research, Inc., at an organization meeting in December. Other officers elected are: vice presidents, L. W. Householder, R. H. Sherwood, and J. W. Carter; treasurer, Colonel W. D. Ord, assistant treasurer, C. C. Crowe; secretary, Oliver J. Grimes; assistant secretary, V. V. Wade. Executive committee is as follows: Mr. Cosgrove, Douglas Gorman, and Chas. G. Berwind.

John P. Dyer, works manager for Nichols Copper Company at El Paso, Texas, has been appointed by the National Labor Relations Board to serve on the regional labor board for the 13th district, representing industry in connection with cases arising in and near El Paso.

R. Park Lamborn, assistant to A. J. Maclean, general purchasing agent of the Kennecott Copper Company and its subsidiaries, Utah Copper and Nevada Consolidated Copper, and other Jackling interests, has been transferred from the San Francisco to the New York offices of the Utah Copper Company at 25 Broad St., New York City.

Robert Gregg, formerly president of the Tennessee Coal, Iron and Railroad Company, Birmingham, Ala., has been elected a vice president of the United States Steel Corporation in charge of sales.

J. D. Francis, president, Island Creek Coal Company, has accepted membership on the Business Advisory and Planning Council for the Department of Commerce.

E. W. Seckendorff is now with the technical staff of Battelle Memorial Institute, Columbus, Ohio.

Among visitors at the offices of The American Mining Congress during January were A. W. Strowger, attorney, Seattle, Wash.; Frederic Stewart, auditor, Edgar Plastic Kaolin Company, Metuchen, N. J.; Frank P. Knight, of the Iron Cap Copper Company, Beverly Farms, Mass.; John Lynch of the Phelps-Dodge Corporation; Henry O'Bleness of The Berwind-White Coal Mining Company; Eugene McAuliffe, president, Union Pacific Coal Company, Omaha, Nebr.; Colonel Warren R. Roberts, of Roberts & Shaefer Company, Chicago.

Floyd M. Wiles is now assistant superintendent of the Park City Consolidated Mines Co., Park City, Utah.

Forest Mathez, Salt Lake engineer, is in charge of operations in the Aurum Gold mine, at Gold Hill, Utah, as superintendent.

Howard Coonley, president of the Walworth Company, has been reelected president of the American Standards Association for 1935.

George W. Peters, formerly of Arizona Consolidated, has accepted the position of mill superintendent of the Sterling Gold at Cordes.



Dr. A. C. Fieldner

A. C. Fieldner, chief engineer, Experiment Stations Division, U. S. Bureau of Mines, has been elected junior vice-president of the American Society for Testing Materials.

William S. Barquist, consulting mining engineer, has opened an office at 2207 Smith Tower, Seattle, Wash.

John M. Humphrey, president, Lehigh Valley Coal Company, died December 28, at his home in Kingston, Pa., age 68 years.

Irving Howbert, long identified with mining in Colorado, and former operator of the Robert E. Lee mine at Leadville, died at Colorado Springs, December 21, age 88 years.

A. C. Center, advertising manager, Gardner-Denver Company, Quincy, Ill., died suddenly during the week of January 7.

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NEWS OF MANUFACTURERS

THE Jeffrey Manufacturing Company, of Columbus, Ohio, announces the appointment of W. F. Barnes to the staff of its Coal Preparation Division. To accept this new post Mr. Barnes has resigned as president and general manager of the St. Louis Structural Steel Co., in which capacity he had served 10 years. He brings to the Jeffrey Company many years of experience in materials handling and coal preparation plant construction.

ORDERS RECEIVED by the General Electric Company during the year 1934 amounted to \$183,660,303, compared with \$142,770,791 for 1933, an increase of 29 percent. Orders for the quarter ended December 31 amounted to \$51,046,760, compared with \$37,985,790 for the last quarter of 1933, an increase of 34 percent.

HERCULES Powder Company, of Wilmington, Delaware, recently published a book of 31 pages descriptive of the flotation process. The chapters on Mill Operation and Control, Computing Mechanical Classifier Efficiency, and Method of Determining Tonnage in Mill Circuits were written by Arthur J. Weinig, director of the Experimental Ore Dressing and Metallurgical Plant at the Colorado School of Mines. A description of the flotation reagents produced by Hercules Powder Company also included.

Copies of this book can be obtained from the Naval Stores Department, Hercules Powder Company, Delaware Trust Building, Wilmington, Del.

FORM 1604-E, is a 56-page bulletin, just off the press, illustrating the Ingersoll-Rand line of two-stage, air-cooled portable compressors, with their various mountings, and a very complete showing of the line of rock drills and pneumatic tools for which they furnish air.

These include the well-known "Jack-hammers," drifter drills, wagon drills, sharpeners and furnaces, "Jackbits," and grinders, drill steel, air hose, drill mountings, hoists, tampers, riveters, chipping hammers, etc.

The bulletin will be interesting to anyone who uses, or expects to use, compressed air. A copy may be obtained from Ingersoll-Rand, 11 Broadway, New York City.

CHICAGO Pneumatic Tool Company, 6 E. 44th Street, New York City, announces a bulletin on their new two-stage, air-cooled portable compressors. Request for copies or inquiries concerning these new machines will be appreciated and receive immediate attention.

SOUNDNESS of metal is of as much importance to the user and producer as correct analysis. While the last word has not been said concerning the composition and treatment of any alloy cast steel and while advances will continue in the strictly metallurgical field, the most good cannot be expected from an excellent metal if, in the particular casting, its properties are more or less nullified by internal defects. Here the X-ray enters foundry practice as a tool tending to transform the art of making castings into a science of exact methods.



There are several reasons why the American Manganese Steel Company invested a large sum in the most efficient and powerful x-ray now used in the foundry industry. The greater yield a foundry can get in sound saleable castings from a ton of metal poured, the less its production cost is bound to be and, once the greater reliability of the product is recognized, the greater field there will be for cast parts. It is neither necessary nor desirable to x-ray all castings made. Pilot castings of a given lot are, and many large or expensive parts, as a matter of standard routine. Enough will be so handled that the Manganese Steel and Chromium-Nickel Alloy Castings made will of necessity be sounder, more efficient and, consequently, more economical than ever before.

FOLLOWING the meeting of its board of directors, the Westinghouse Electric & Manufacturing Company issued the following statement:

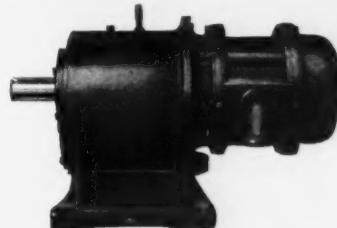
"The board of directors of this company has today declared a dividend consisting of one-fourth of a share of common stock of Radio Corporation of America for each share of preferred stock and common stock of this company, such dividend to be payable February 18, 1935, to stockholders of record at the close of business on January 21, 1935.

"In view of the preferential right of the preferred stock of this company, the board of directors has also declared an optional dividend of \$3.50 per share upon any share of this company's preferred stock, the holder of which may desire to accept such cash dividend in exchange for the one-fourth of a share of common stock of the Radio Corporation to be distributed as a dividend upon said share of preferred stock.

"The above dividend, including the optional feature, constitutes, as to holders of preferred stock of this company, full payment of the preferential dividend for the year 1935 to which holders of such preferred stock are entitled.

"On February 18, 1935, when the above distribution of Radio Corporation stock is made to stockholders of this company, full information will be given with respect to the handling of any fractional receipts which may be received by stockholders, and also with respect to the exercise by the holders of preferred stock of this company of the right to the optional dividend. There is no action to be taken, prior to February 18, 1935, by the holders of preferred stock of this company with reference to the right to the optional dividend."

IN ORDER to meet the growing demand for still greater compactness and economy in self-contained enclosed speed reducing units, Link-Belt Company, Philadelphia, Chicago, San Francisco, announces that it is placing on the market a new line of motorized helical-gear reducers, an outstanding feature of which is the unusual accessibility of the motor and the high speed gears.



The new motorized reducers may be mounted on floor, ceiling or wall; and are available in double reduction for $\frac{1}{2}$ to 75 h.p., in ratios up to 38 $\frac{1}{2}$ to 1, and in triple reduction up to 30 h.p., in ratios up to 292 to 1. They embody the usual advantages of not requiring a motor base plate or a high-speed shaft coupling and as the motor forms an integral part of the reducer, the proper alignment of motor shaft is definitely assured at all times.

The company continues the manufacture of a well-rounded line of herringbone-gear reducers of single, double and triple reduction, and worm-gear reducers, for connection to separately-mounted motors by means of a flexible coupling.



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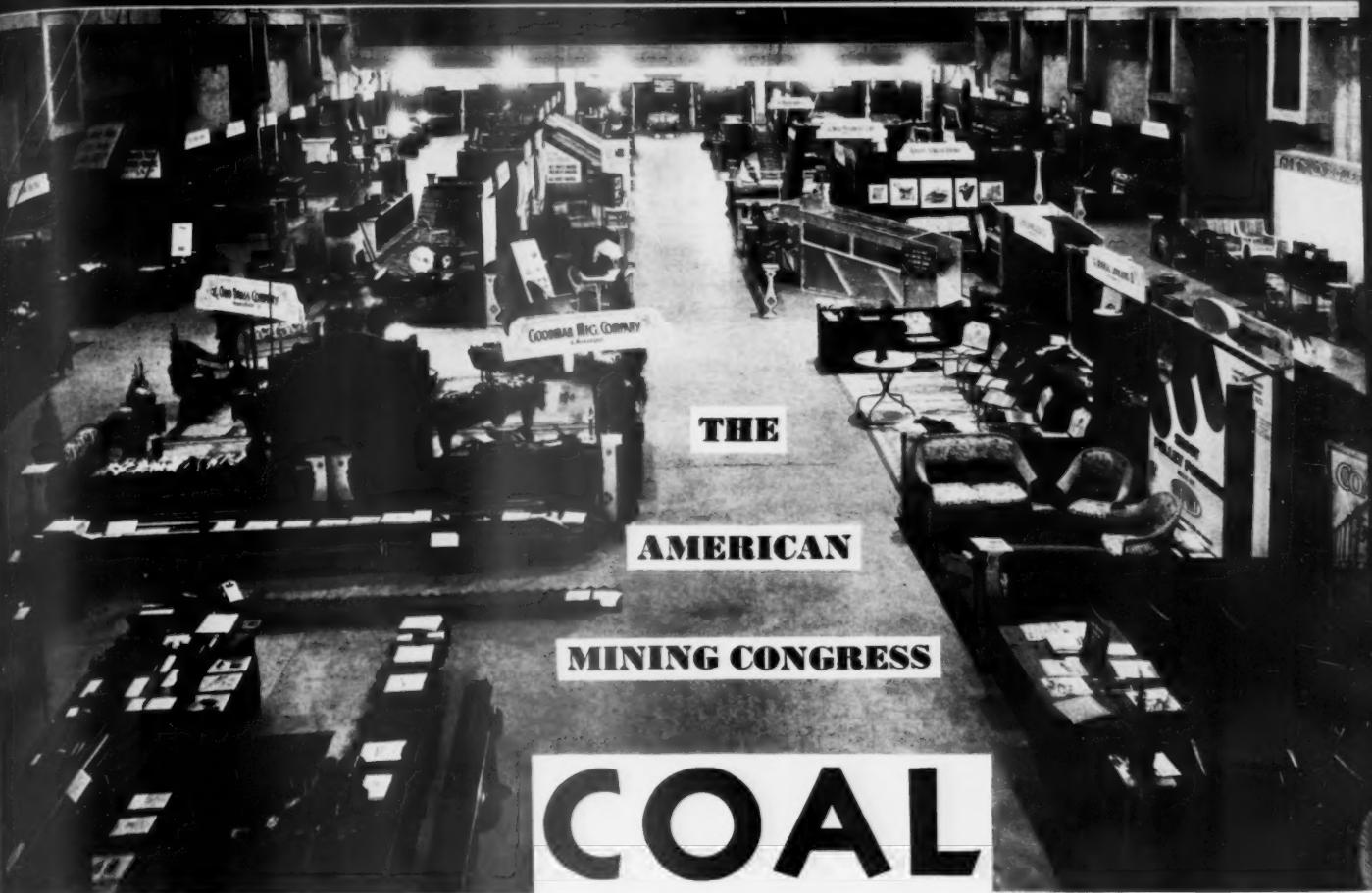
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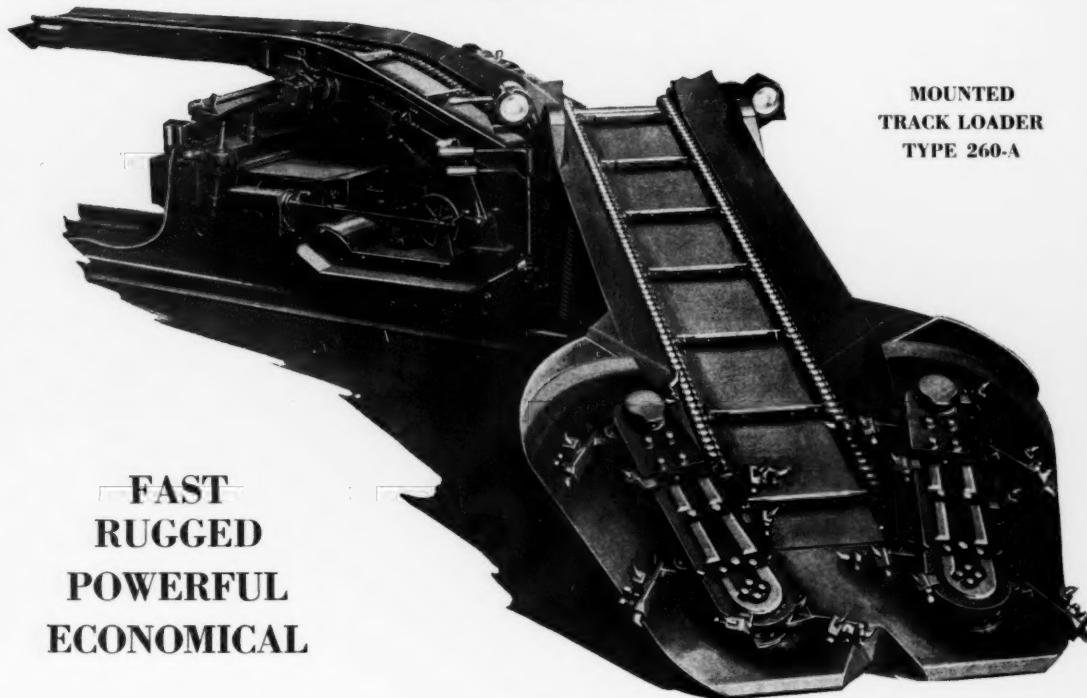
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Features:—

ADAPTABILITY—The digging head will dig from 24 inches below the rails to 48 inches above. This allows the head to attack a coal pile or load off a shelf. The head has a swing of 48° off center and can load out a 25-foot room with ease.

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EASE OF CONTROL—All control levers are within convenient reach of the operator at one point. They are easy to operate and their action is smooth.

EASE OF REPAIR—The Goodman Track Loader is made up of five units, any one of which may be removed from the chassis with a minimum of labor.

SHORTWALL CLEARANCE—Track need not be laid closer than 7 feet from the face and therefore does not interfere with the cutting operation.

FAST LOADING—The Type 260-A Loader, because of its power and ease of operation, will actually load cars faster than they can be spotted.

FAST TRAMMING—A trammimg speed of 4 to 6 M. P. H. enables this Track Loader to travel from place to place without delay.

*Alternating or Direct Current—Enclosed or Government Approved
Self-Contained—Self-Propelled*

GOODMAN
Locomotives - Loaders - Coal Cutters

PITTSBURGH-WILKES-BARRE-HUNTINGTON-BIRMINGHAM-ST LOUIS-DENVER-LOS ANGELES

**MANUFACTURING
COMPANY**
HALSTED ST. at 48TH.
CHICAGO---ILL.

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